

NEBULA

MONTHLY

2/-

SCIENCE FICTION

NUMBER 27



FOR READING THAT'S DIFFERENT

MORNING AND EVENING STAR



*The
Planet
Venus **

A. E. ROY, B.Sc., Ph.D., F.R.A.S., F.B.I.S.

To the ancient Greeks, the planet Venus was Phosphorus the morning star and Hesperus the evening star. Moving in an almost circular orbit about the Sun, 67,000,000 miles in radius, it makes one revolution of the Sun in 225 days. Because of its position with respect to the Earth's orbit, it is never seen at an angular distance of more than 48° from the Sun and is best seen when it is at its farthest from the Sun. At these times it is so brilliant that it can be seen by the naked eye in daylight. At night after sunset the planet can be the most conspicuous sight in the heavens apart from the Moon.

Even in Galileo's small, imperfect telescope, Venus in its journey round the Sun showed phases like our satellite and this phenomenon showed clearly that the planet's orbit lay about the Sun as stated by the Copernican Theory and not about the Earth, as taught by the followers of the Ptolemaic Theory.

The apparent size and brightness of the planet varies considerably with its position. The distance of Venus from us can vary from 26,000,000 miles at inferior conjunction to 160,000,000 miles at superior conjunction while the fraction of the illuminated half of the planet's surface visible to us varies from zero to unity. The photograph, taken in blue light by the 200 inch Hale telescope at Mt. Palomar, shows Venus in the crescent phase.

**(By courtesy of Mt. Wilson and Mt. Palomar Observatories).*

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Edited by PETER HAMILTON

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Look here . . .

It was recently reported that the "New Shakespeare Film Society", newly formed in Liverpool, has decided to exclude "Films of Violence, Horror, *Science-Fiction* and exaggerated Sex" from its programmes. (The italics are mine.)

This news may come as something of a shock to devotees of the better type of science-fiction but, if we think the matter over more carefully, we would be less than honest with ourselves if we did not admit that, outside of the "big four" magazines and a few hard-cover books (in Great Britain) much of what passes for science-fiction could fit just as easily into any of the other three categories banned by the "New Shakespeare."

One has only to study Forry Ackerman's film previews each month in this magazine to discover just what a small proportion of really first-class science-fiction movies are currently being made. Mostly, they consist of horror, violence, and every other kind of dressed-up crudity (witness the mention given to "Teenage Frankenstein", etc., in this issue) all presented to an unwary public as "science-fiction".

Radio and T.V. similarly misrepresent this type of literature to a public which, although undoubtedly interested, is still handicapped by narrow-minded prejudices like good taste and a sense of moral standards. The most blatant recent example of this misrepresentation was the B.B.C. radio serialisation of "The Day of the Triffids" by John Wyndham which, punctuated only by the pop of champagne corks and phrases like "Have a drink, darling, I love you," romped its way through one immorality after another. In this play, which was presented as science-fiction at its very best, the survivors from world catastrophe think not of how best to set about rebuilding civilisation, but concentrate rather on learning the easiest method of brewing beer and manufacturing mead.

It is not that there is any dearth of good science-fiction material available or that it is any more difficult to adapt for film and radio presentation than much of the trash currently used. The film industry has already risen to great heights of artistry and entertainment in giving us "When Worlds Collide" and "War of the Worlds", etc., while the B.B.C. would, I am sure, have found it quite easy to prepare a radio adaptation of a truly great work of science-fiction such as "Earth Abides" by George R. Stuart which, although parallel in many ways to "The Day of the Triffids", maintains the highest moral level throughout.

Every time a third-rate subject is passed off as science-fiction it lowers in the mind of the man in the street the high average standard of intellectualism and craftsmanship which the better writers of our favourite type of literature have set themselves. Should this continue, the stage will eventually be reached where no intelligent and self-respecting person will be seen reading science-fiction of any sort in public. If this state of affairs is to be avoided it is for we who know the good science-fiction from the bad to communicate our discerning ability to the public by every means at our disposal by protesting loudly and vigorously against any film, play, book or story which masquerades as science-fiction while attempting to cash in on the current trend towards loose morals and habitual violence.

In this way, each of us will do his or her own part, however small, in maintaining science-fiction in its rightful position as the world's most intelligent modern literary form.

Peter Hamilton

The Hired Help

*From the ruins of war-torn Britain had grown a factory
built for a purpose unknown to the inhabitants of Earth*

Illustrated by Gerard Quinn

I had seen pictures of the Factory, of course. The Visitors had no objection to human aircraft flying over the site, provided they didn't do so when any of their own vessels were coming or going, and the privilege had been used to the full. But the pictures, and the cold statistics which had gone with them, hadn't added up in my mind to anything like this. This was not merely colossal. This was fantastic beyond human imagining.

Naturally. It had not been conceived in any human brain.

I thought back over the rough layout of the maps I had seen. Somewhere between Rugby and Gloucester, in the Vale of Evesham, was the original site—where the first ship had been cannibalised to make the rough framework of the A sector. The rest of the ships used hadn't landed—they had been brought down piecemeal to form the B, C and D sectors which now ran the length of England on both sides of the Pennines. Later work had apparently been done with the aid of materials manufactured on the spot—mostly from metal scrap locked forever beyond our reach in the deserts which had once been Coventry, Birmingham, London and the cities of the Clyde.

The whole thing added up now to one vast and continuous city of a works which stretched from Hull and Barrow in the north to Cardiff and Chatham in the south, ceasing its water supply by the riverful and its metal ore by the mountain-top; absorbing into its sprawling bulk the coal seams for plastics and the strange new plants that covered the but lately bare Highlands of Scotland and Wales for food, cloth and paper.

I had known all this intellectually. But I didn't need to feign surprise and awe at the sight of the façade of the reality. Built of some grey plastic, it reached sixty feet into the air and stretched literally from horizon to horizon. It was featureless—and what with the changes in geography which the War had brought about, I could have been anywhere in Britain between Croydon and Bristol.

I relaxed for a moment and glanced around surreptitiously at my companions. All of them, without visible exception, were tilting back their heads or turning from left to right to gaze with astonishment at the sheer size of the place. It had looked vast enough from a distance in all conscience, but the close-up was something else again. I imagined that most of them probably felt a subconscious stirring of pride that this should have been built by the hands of men. That was true enough, but it was no source of pride. We could have designed it—but we hadn't. We were too busy picking up the odds and ends left by the War to think of ideas like this.

Behind me, the convoy discharged the last of its cargo of humanity, and one by one the hundred-passenger trucks which had brought us from the south coast—built by men, powered by motors designed somewhere fifty or a hundred lightyears away—swung around on the forty-foot roadway and made off into the distance, leaving sixteen hundred new recruits standing in a random crowd on the four square miles of concrete before the Factory.

I looked around for a sign of someone in authority, and found none. So I did the correct thing—sat down on my kitbag and took out a cigarette. That was all in accordance with the printed orders they had given us at the reception unit.

"If at any time," the passage ran, "you find yourself left without immediate instructions, remain where you are until told otherwise. Remember! The charter which you signed prior to joining bound you to membership in a quasimilitary organisation, the regulations of which were fully explained to you. Disobedience of standing orders such as are contained in this leaflet will be treated with the same severity as open insubordination."

Most of my companions, I noticed, had taken that injunction to

heart. Who would quarrel with it, after all? Most of them—certainly all those under thirty—had been pretty thoroughly conditioned to respect military authority since the War started, and anyway no one in his right mind was going to do anything that would lose him a job nowadays.

After a moment, the reality of the Factory finally penetrated my emotional centres, which I had had well armoured before setting out, and I simply sat and stared. I thought: four years!

Four years to turn an island four hundred miles long into one continuous factory, capable of employing millions. Capable of providing them with food, clothing, housing, recreation—and employing them. Capable of giving them something more important than any of these. Satisfaction.

That was something we ought to have done, my mind kept telling me. When men work together, things get done. But we never really worked together before. We didn't know the power of our own determination until three things happened. We were crowded, we were starved, and someone else came to show us how.

A little way from me there was a stir in the crowd, and I got to my feet. A door had opened in the featureless frontage, and from it a squad of men in dark uniform, each with a revolver clapped on his hip, came marching out—one, two, one two, and halt!

The man in charge faced them right and dismissed them, and they dispersed, shouting, among the recruits. The one that headed towards me was calling in a harsh voice, "Get inside now! Get inside!"

I snuffed my cigarette and joined the slow movement towards the gap in the wall.

What I had expected to see when I got inside I don't quite remember. I think the name of the place—the Factory—had led me to think of vast machines, long assembly lines, or blazing forges and furnaces. A moment's thought would have told me that the logistics of an industrial organisation in which the distances involved were country-wide made that absurd. However, I remember that as we shuffled through the entrance, my mind was full of a jubilation that I found it hard to keep from showing in my face. I thought: I'm here! I'm really here!

Inside, there were more of the uniformed men, who waved us off to the left through wide double doors. While I was waiting to pass through, I looked about me and found that all I could make out from that point was the mouth of one of the air-ducts feeding the part of the Factory which lay below ground, out

of sight, and what appeared to be a railway platform, from beside which a double track ran into the heart of the Factory through another of the conceal~~ing~~g walls. Gigantic arc lights blazed down on us like miniature suns, almost bright enough by contrast with the grey overcast outside to hurt the eyes.

Beyond the doors through which we passed there lay a lecture hall capable of seating at least four thousand people. It had a raised stage at one end, and seats sloped steeply from it to the full sixty-foot height of the roof.

I saw nothing remarkable except the strict functionalism and utility of the place as I shuffled into one of the rearward rows. The ceiling was patterned with some kind of sound-reflecting or absorbing material. I knew little about acoustics, but I guessed that a great deal of research had gone into even this relatively insignificant point of the design.

On the stage there were a few chairs, one of which was occupied by a man whom I could not see very clearly at this distance, but whom I made out to be short and fair, and of pronounced stockiness. He seemed to be looking us over, and I had an uncomfortable feeling that he was concentrating on my location, but that proved to be an illusion, for he gave each area of the audience the same detailed scrutiny.

Someone down at the end of the row ahead asked one of the men in uniform—their official title was constable, that I knew—whether we could smoke, and was told that we could. I got out the butt I had snuffed on coming in and re-lit it, making the most of every draw. Tobacco was very hard to come by these days, though apparently the Visitors included it among their crops, for we had had a free issue of it at the reception unit.

Then there was a movement on the stage, and the man who had been in command of the squad of constables who marched out to us came from the wings. He took up a position in the centre of the stage and called for attention.

The acoustics, as I had guessed, were magnificent.

"I don't want to keep you here long," said the speaker. "First, I want to welcome you to the Factory. You already know that you'll be better off here than anywhere else on Earth. You're fully aware that you are bound to a discipline as strict as that of a military unit. It has to be that way—we work to a timetable in which, to quote an actual example, the loss of ten seconds in B sector can stall production in D sector for three full hours.

"But the advantages you gain outweigh that. You're in this with your eyes open. You'll work to the maximum of your ability for eight hours a day. In return, you will never suffer an accident from any machine with which you work, unless you try to interfere with its operation; you will never fall ill, unless you invent your own diseases." He waited for the titter of applause, and it came—we had been inoculated at the reception unit with antibiotics which the Visitors claimed were proof against all the illnesses on Earth.

"Secondly, I want to let you know something about the Factory itself."

He made some kind of signal to a technician out of sight, and the lights went down and a map of what had been Britain before it became the Factory was thrown on the back wall. I shifted forward on my seat, memorising it as soon as it appeared. It showed details of the Factory which we had been unable to find out—the ones that were inside.

The speaker pointed out the four major production areas, explaining how the complex interlocking system of rolling ways fed parts manufactured in A and B sectors to C or D for assembly and testing. I marvelled along with the rest of the newcomers at the fantastic ingenuity which enabled a factory to be measured by the hundreds of square miles.

By the time the speaker had finished talking about the overall layout and moved on to the more immediately personal details of individual townships, I had that map firmly embedded in my mind, particularly its subways, rolling ways and electric trains. I paid less attention to the part dealing with dwelling units and workshops—it would be dangerous to show a too retentive memory—but the overall pattern would stick with me.

At length the speaker signed for lights again. Blinking slightly in the glare, he asked if there were any questions.

Six or seven people got up at various points in the hall, and asked about things they should already have known—pay, marriage, vacations, discipline. My mind was wandering during most of it, but I came aware with a jerk at the answer to the last question. The substance of it I already knew, but the manner in which it was phrased was striking and brilliant.

After going over minor penalties, the speaker finished, "The severest punishment we can give is awarded only for persistent trouble-making, insubordination three times repeated, or sabotage. It is expulsion from the Factory. Nothing could be worse to a man

who has once realised the advantages the Factory has to offer than to go back to the breadline when there is no bread."

The breadline, when there is no bread! A perfect—and terrifyingly accurate—summing up of the plight of the world.

Then, finally, someone got up and put the question which I had myself been longing to ask, but which I feared to in case I drew attention to myself. That, at all costs, I must avoid.

The questioner said, "Are we going to meet any of the Visitors?"

The stocky man in the chair, who had not previously moved except to continue his study of the audience, stirred slightly and, in a booming voice that carried resonantly through the hall, spoke.

"I am a Visitor," he said.

There was a sudden ripple of amazement in the hall. Men turned to their neighbours in disbelief, and then, as a mutter of incredulity replaced the first shock, murmured, "Why, he's only a man!"

My reaction was different. I thought: he looks as if he were only a man.

It was four years now since the Visitors had put their ships down in the uninhabitable desert that had once been the Mother Country—four years ago, and four years after the official end of the War. *The War*—the one which had really meant war to every man, woman and child on Earth, from the bombed cities of Europe, Asia and America, to the blighted and wilting forests of the Matto Grosso; the one that had literally halved the population of the world. The first such, and God willing, the last.

Four years after it was officially over, after what was left of authority on either side of the ten thousand mile wide battleground had looked about it and decided to come to its senses, picked up the little that was left and tried to put it together again, when they were still desperately trying to find food, clothing, homes and work for a thousand million people, the Visitors had come.

Unannounced, unheralded—almost unnoticed—they had dropped their mighty ships in darkness on to the uninhabitable island which had once been England, Scotland and Wales, cleared away the mess and set up house.

No one was there to say them nay.

For a few months they simply stayed there, laying the foundations of the Factory. Where there had been bare, scarred ground, there grew buildings and roads. Where there had been craters and ruins, there was concrete and glass and steel. Most important, where



there had been so much gamma radiation from the cobalt 60 bombs that no human being could walk the earth, there was sweet, clean air and pure running water.

Some time later, what had been a tattered remnant of UNO and was now the world government because no one else was capable of taking the job, finished setting itself up in the only relatively untouched spot left on Earth—the outback of Australia. Then it completed a chain of refuelling points and got some aircraft back into the air. During their survey of the ruined world, they found an accomplished fact.

The Visitors were here.

Another age might have paid its compliments with a hell bomb. An era sick of war and the trappings of war took it as another problem that had to be lived with—one which could wait, and that in itself was a miracle when there were a million problems which couldn't. Besides, we had placed the island out of our own reach by our own actions, and if the Visitors could reclaim it when we could not, they were welcome to the land.

Before anyone could spare the time to worry about making contact, the Visitors themselves solved the question. In a polite

and carefully worded message to a survey plane, they stated that they were not interfering and would not do so unless they were forced. But that was not important. If they had wanted to interfere, no one could have done anything about it. It was the rest of the message which was the operative part.

Briefly, it said that the aliens were a race which had outgrown planets and now dwelt between the stars in cities of their own making. They needed another of their artificial worlds, and were building it on Earth. If we wanted to save them some trouble, we were welcome to jobs in the Factory, and to be paid in food, housing and technical assistance. If not, they were quite capable of attending to the matter themselves.

Perhaps a less casual approach would have smacked of a trap to the incurably suspicious mind of terrestrial man. But in the attitude of take it or leave it with which the message was phrased, a government busy failing to cope with the ever-growing problem of mending civilisation saw the answer to half its troubles.

It gave its official blessing with a will, and as soon as there were adequate ships at sea again, the migrations started. The butcher, who was without meat to sell; the baker, who had no dough to knead; the tinker, who had no means of patching his pots; the tailor, who no longer had cloth to sew; the soldier and sailor, whose army and navy were scattered and broken across half the face of the planet—there was room for every trade on Earth in the Factory, and in four years more than six millions had gone inside.

They went in. They worked, and were paid in better food than they had eaten since before the War, in more durable and warmer clothing, in a softer bed—and perhaps most valuable of all, in time to relax. That much was, for the Visitors had promised it, and if it had been otherwise no power in the Universe could have kept it secret, for man is a talkative beast. Moreover, the regrets of the chronic misfits who were expelled from the Factory were proof enough—but these last were few.

Meantime the government got on with its task of feeding Africans, whose game was dead of man-made plague; Indians, whose land was sterile with man-sown radio dust; Chinese, whose paddies were lifeless with man-spread blight—and none of whom could offer constructive help in the work of regeneration. True to their word, the Visitors paid. For example, they saw where the mighty army of refugees who had wandered south through torn and battered Europe had settled at the western end of the Mediterranean on land without housing or drainage, and given rise to Slum City.

So they brought, one day, a machine which made prefabricated units out of common earth and clay. In six weeks there was an estate where there had been insanitary chaos. Then someone tried to figure out how the machine worked, and it blew up, and there was chaos again.

After that, men stopped asking questions and were content to accept the help that was offered them.

For a time.

When the harassed government got around to wondering again, the Factory was also an accomplished fact. It was up, and the roof was on, and men had gone to work in it.

So, four years after the arrival of the Visitors, no man on Earth, unless he held a job in it, knew more about the Factory than its bare existence.

And that could not be tolerated.

Requests to the Visitors for additional information produced no reply. In fact, except for their original message and the presence of machines such as the one which had rebuilt Slum City, the only proof that they even existed lay in the fact that terrestrial man could never have designed the Factory. Therefore there was only one way to find out if all was well—and that was to send a man in to look.

I was that man.

It was guessed that the Visitors would not take kindly to spies. Therefore I *became* Lewis Roland Jackson, born thirty-three years before as an American. The name was false, though the rest of it wasn't, even down to the careful way of phrasing my nationality. I drew a strict distinction between loyalty to what had been the United States and loyalty to my present masters, because there wasn't much left of North America.

I had been an engineer in the Tank Corps for most of the War, so that too became part of my character. During the time I'd spent wandering, building up my background before applying for a job with the Factory, begging bread where there was none to be had and sleeping in the open, I'd had it confirmed many times over that it was only too common for engineers to be starving. There just wasn't any heavy industry now.

Proof of my good disguise lay in the fact that I was inside the Factory.

One of the main reasons I had been selected out of half a dozen possibilities was that I was a *good* engineer, though I say so myself.

I wasn't just a grease-monkey, capable of doing things according to the book. I'd been improvising and re-designing the wrecked material which was all we had to work with, and I'd had more success than half the others put together when the order came through for this espionage job. The logic was sound. We knew that the Visitors had techniques which the closed mind of the average man would never absorb, but an improviser, an inventor, might stand a good chance of getting into a position of trust.

I heard very little of the rest of the address—I was too thunder-struck at the idea of the Visitors being no more than men—but when it was over I had the first inkling that our policy was going to pay a dividend.

They passed us out of the hall through a single door, which led on to the rail platform I had noticed earlier, and as we went by each of us was handed a ticket with his name, code number and place of employment on it. Mine said I was assigned to D sector—assembly and checking—and that looked good.

According to the map which had gone wholesale into my trained memory, I had to take the train which was now waiting at the platform to a point some forty miles into the interior of the Factory, and transfer there to a branch line serving the greater part of D sector. I entered the train accordingly, realising too late that I should have asked one of the constables in case I gave away the power of my memorisation.

But none of the constables who were herding us noticed, and presumably there were no Visitors around, so I covered my nervousness with another of my precious cigarettes and waited for the train to get under way.

It pulled out soundlessly—noise in a moving system is a sign of wasted energy—and the acceleration thrust me back in my seat. I couldn't make more than a guess at the speed it finally reached, but it must have been around two hundred miles an hour for it to cover the distance in so short a time.

I found the branch line to D sector central without much trouble—the system was no more complicated than the old New York subway, and much more clearly signposted. I was waiting for the train I wanted when I noticed a man a few yards down the platform whom I'd seen in front of me in the lecture hall.

I stepped forward and tapped his shoulder. "Going to D sector?" I inquired.

He glanced around and nodded. "This is right, isn't it? I only just got here."

"So did I," I told him. "Name's Lew Jackson. I was sitting behind you in the lecture hall."

"I'm Walters—Tim Walters," he said. I couldn't quite place his accent—it sounded nearly as American as my own, but subtly different. "Interesting to find someone else new to the job. I imagine it'll be pretty tough picking up the techniques they use here."

I shrugged. "Seems to me it's no harder than learning our own tricks the first time you come across them. I know plenty of people who couldn't even fix a busted radio or a flat tyre."

"Might be," he admitted. "You're American, aren't you?"

"I was. So are you, aren't you?"

"No, I'm English-born. Gloucestershire. Somewhere in the middle of A sector, you'd call it, I suppose."

"That so?" I commented. "It'll be interesting for you to go and see what the old place has become."

His face soured, and he was going to make some reply, when the train we were waiting for rolled into the station. We found ourselves seats, and I changed the subject, since I could see I'd made a mistake.

"Did you have any special reason for saying it'll be hard to pick up the Visitors' techniques?" I ventured.

He didn't answer for a moment—he was looking over the ten or a dozen other occupants of the carriage. Most of them wore one-piece overalls which were spotlessly clean, but one man was in mufti and carried a bag from the top of which a soccer ball poked out.

"I was in Slum City when the house-builder came in," Walters said eventually. "I got a good look at it before that damned fool Bratcheslavski decided he knew enough about it to change it around. It wasn't like anything we've ever dreamed up. It was cold atomic stuff."

I whistled. "Cold atomics? You mean maximum utilisation of energy?"

"It looked like it," said Walters. "That wasn't all, of course. Bratcheslavski had been with anti-aircraft during the War. Some of those people's equipment was better than any I've seen—self-compensating, balanced unstable feedback—you name it, they had it. What Bratch didn't know about our types of computer wasn't worth knowing. But he told me he'd figured some of the circuits in the

house-builder, and it not only had all that, but it was self-programming. You might say it made its own decisions about what to build and how much of it. All that in a box about four feet square and two deep. I tell you, the Visitors are a long way ahead of us."

I considered it thoughtfully. It boiled down to this: it was going to take us all our time to learn what to do, let alone why we were doing it. I hoped devoutly he was wrong.

Aloud, I said, "What gets me is that fact that the Visitors themselves don't look any different from us. Why are they so secretive about it? I could understand them being cagey if they looked like over-grown spiders or snakes or something which human beings find horrible, but when they look human themselves——"

"I think I see the reason," interrupted Walters. "Suppose the government learned that they were man-like, would they take so easily to being ordered around by them? No, that isn't quite fair—to living on their charity, shall we say? So long as they have a vague mental picture of some super-human, super-intelligent race of aliens, they're content to let things ride. Otherwise, they'd be poking their noses in here demanding to be taught new techniques, and the way I read it, the Visitors aren't really interested in us except as hired help. They just want to get their work done as fast as possible.

"Compare it with—say a detachment of Army personnel back in the War. They have to get dug in somewhere and set up, for example, a bomb dump. There are natives around who are half-starved and suffering from yaws. It would suit the commander nicely to leave his techs to get on with more important work, while the natives did the digging and got paid in iron rations and penicillin. But if the locals started asking questions, and maybe pulled the pin on a grenade or two to see what would happen, the deal would be off because it would just be wasting time."

The train ran to a halt at this point, while Walters was still getting warm to his argument, and we saw signs posted outside telling us we were in D sector central. We picked up our bags and left the train.

There was a constable standing nearby on the platform, and we showed him our tickets and asked what to do now. He gave us directions, and we went out of the station and up a long flight of stairs into what looked like a landing between several corridors and staircases connecting different levels. Here we heard the first real mechanical noise we had yet encountered—the faint inescapable susurrus of many axles revolving in air. I said to Walters, "Sounds as if we'll be working somewhere near here."

He nodded in agreement, hunting for the right passage for us. The one we wanted lay in what I judged to be a westerly direction, and we went down it. Some few yards along we came to a door marked "Foreman", with its equivalent in at least three other languages. I remember recognising French and Russian, but the other or others were in a non-Roman script. I knocked.

There was a moment's pause, and then a gruff voice told us to come in.

The foreman was a man of average height and build; his clothes were the standard one-piece coverall we had already seen in the train. But his face had been turned by plastic surgery into a smooth immobile mask. Here was someone who had been close enough to a hell bomb to feel the effects.

He said sourly, "You're Jackson and Walters?"

We nodded and handed him our tickets, which he read through carefully. I noticed that when he spoke his face creased along lines as well-defined as if it were made of paper.

"Sitdown," he said finally.

We did so, on a long plastic bench opposite the desk at which the foreman worked.

"I'm Kinnaird," he said, raising his head. "Take a good look at me. I know I'm not beautiful, but I had to get used to this pan and I have to live with it. You're going to know it better than I do before you leave here.

"I'm the foreman in charge of Workshop 8 of D sector, which is where you are now. I'm in *charge*—got that? I'm your father and mother from here on in. I don't expect any trouble from you two. I'll see that you work all right—you see you don't get into other kinds of trouble. That way we'll all be happy. All right?" He thumbed a bell-push near his right hand.

"One thing I have to make clear. If you ever think of tangling with me, change your mind. I'm forty per cent. artificial. If you hit me on the chin, your fist bounces right off. You kick me in the belly, I get a replacement from stores. I was caught in the Kiel blowup, and if it hadn't been for the Visitors putting me back together when I came here, I wouldn't even look like a man. You can see I'm a guy who wouldn't do anything to cross the Visitors, and if you know what's good for you you'll copy my example. Okay?"

The door opened and a girl came in. I tried not to stare, but the effort cost me a lot. She was one of the most striking women I'd ever seen. Her hair was a shining, flaming red, and her face had a high-cheeked, strong bone-structure which is rare even in Northern

Europe and uncommon anywhere else on Earth. She said in a cool voice, "What is it, Mr. Kinnaird?"

"Take these two down to their quarters—I've put them in sixteen block," said Kinnaird without looking at her. "Tell 'em where the mess is, and the washrooms. Show 'em where to go when they report for early shift tomorrow. That's all."

We got up and went out. Neither of us had said a word between entering the office and leaving it.

When we were in the corridor, I turned to the girl and said, jerking my head at the closed door behind us, "Bit of a fire-cater, isn't he?"

"Anti-social, if you ask me," put in Walters in a low voice.

"Society never did much for him," said the girl calmly. "Will you come with me?"

"It's a pleasure," said Walters, hoisting his kitbag on his shoulder.

We walked in silence for a few yards, and stopped before the shaft of a lift. While we were waiting for it to answer the pressure of the bell beside it, the girl said, "I'm sorry if I was short with you, but Kinnaird isn't what you would call a happy man, and for my money he has no reason to be. I'm Margaret Andersen."

We introduced ourselves as we got into the lift, and learned that this workshop was concerned with assembling and testing transmuters and airmakers for the space city. It meant nothing to either Walters or me, and the girl told us she didn't work in the shop, so we had to let it slide.

The first place Margaret took us was to our quarters—small individual cubicles containing a bed, a chair and a couple of fitted wardrobes. We unloaded our belongings, and when I opened the nearest wardrobe to stow some of my kit, I found a pair of coveralls hanging up inside.

I took them down and was on the point of calling to Margaret that the previous occupier had forgotten his working clothes, when I noticed that they bore my own serial number. I tried them on. They fitted as if they had been tailored to me.

The organisation of the place must have been fantastic.

After that, we were introduced to the mess, the rest of the living quarters, and the recreation centre, which were all better than I had ever expected to see again in my life-time. Besides what we saw, I knew there were outdoor sports grounds on the roof of the Factory, not to mention swimming pools and running tracks—everything, but everything, seemed to be provided.

Finally Margaret said, "I can spare another five or ten minutes before Kinnaird gets worried. Is there anything else I have to show you?"

"Where do we work?" I said.

"Of course. I almost forgot. This way."

It wasn't far.

I had no clear idea of what a transmuter or an airmaker looked like, so my mind was full of a vague conception of mighty machines making a thunderous noise and probably giving off sparks. I was all wrong. The workshop was a vast low-ceilinged hall, at least a hundred yards square. There were some six or seven hundred men and women working at self-contained units of machinery, which neither sparked nor made much of a noise, except for the soft hissing of turning wheels which we had heard when we first arrived.

Rolling ways fed incomprehensible parts into the far end of the shop, where the first stages of assembly were carried out. With the perfect smoothness of precision clockwork these partial assemblies ran down more rolling ways into the first testers. There must have been more than two hundred separate lines entering the hall, but after four stages of assembly and testing only four ran out of the other end, and each of these carried what seemed like completed machines.

"Is this the end of the sequence?" I asked Margaret.

"Heavens, no," she said, laughing. "This is three or four stages before the end, and there are more than a dozen shops exactly like this one. You fellows don't know it yet, but you will—this place is *big*."

I nodded. It was big. It was too big—it was inhumanly efficient, on top of that. And yet I knew the Visitors were only men.

My job was operating a tester. The man whom I relieved at the beginning of the early shift next day proved to be a big cheerful German from Frankfurt-an-der-Oder, named Heinz Schulmann. His command of English was sketchy, but he had served with the NATO army, so he had a fair technical vocabulary, and I knew a bit of German, so we made out.

It took me no more than a couple of hours to get to know the sequence of lights on the tester which meant correct or faulty functioning, but after three weeks I still had not the faintest idea what those lights signified—what forces were used, what atomic or other power ran the machines. The testers themselves never seemed to go wrong, and if it hadn't been for the fact that someone would

have had to build the machines to run the machines, the entire process might have been automatised.

I had plenty of free time during those three weeks. I used it to what I thought was its best advantage. I spent the first few evenings relaxing and talking to other people—in particular, to Heinz Schulmann, who seemed able to do without more than three hours' sleep a night. I found him a pleasant guy, whose only complaint against the Factory was that they didn't have Pilsner beer.

I learned a useful thing from him—that the interior of the Factory was open to all its workers—if I wanted to tour it and visit the various sectors, I was quite able to.

I did just that, therefore. On my first free-day—we had one day in eight off—I rode the train as far as the mine from which came the raw materials for our airmakers. I found it somewhere about Wolverhampton, so far as I could judge. What they were mining, I couldn't tell, though it looked to be only silica, and I had no chance of finding out whether they were merely distilling what they wanted from liquid, or whether their furnaces actually transmuted the elements they needed.

After I'd started on that, I saw little of Walters or Heinz, who had been my first acquaintances, for the size of the processes hypnotised me, and I kept going back over them to study them. On my next two free-days I found other sequences, one of which ended in electric cable and the other in what appeared to be standard section girders of enormous length which I assumed to be main members of the embryo space city.

I talked with people from other sectors when I got the chance, and what I learned from them confirmed a suspicion I'd had when I first met Heinz. No one, except myself, appeared to be taking any interest in the Factory beyond the bare minimum of learning their job. No one was interested in studying the Visitors' advanced science.

And for that, there could only be one reason. Having found out that it couldn't be understood by just looking, people had given up.

One evening, when I'd been there just over three weeks, I was having a quiet talk with Margaret. We'd met casually in one of the recreation rooms.

"Most of the people here," I said, "don't seem to worry about what they're really doing. You only have to look around you to see that the Visitors can make our best atomic physics look like a third-grade nature-study lesson. Yet I can't find one single person who's doing anything about making up the difference. You'd think

that among technicians and scientists such as get jobs here, at least a few people would take the mess the world is in seriously enough to think of helping to re-make the planet when they leave here."

Margaret sipped her drink. "I can think of two reasons for that," she said. "You know I work in co-ordination. My job is punching a computer which figures the reactions of personalities in certain jobs. By the way, this is in confidence—it was shaky whether you got into this workshop. You're an unstable factor. Walters—who came with you—isn't. He's more typical of the present-day attitude of human beings. The first reason I mentioned is that sub-consciously almost everybody no longer thinks of science as a help. The hell bomb did that, and the blights and plagues and radio-dusts. Science is every man's enemy.

"The second is that the people here don't think of leaving."

"What?" I upset my own drink at that.

"They don't think of leaving," repeated Margaret patiently. "Probably to people who've grown up always facing a uniformly black future, it's too tempting to stop worrying altogether. This job provides security in which to live and die."

"In the name of God, how long is the Factory going to be here?"

She looked troubled. "No one seems to know," she said. "But it won't be less than a hundred years."

I sat back in my seat. A hundred years! Yes, that was permanent security, so far as an individual was concerned. But the idea wasn't in itself appalling—it was the reaction of earth-born human beings to its presence that frightened me.

"It can't last," I said finally. "When the War is no longer a close memory, people will start working with science again. Even now, UNO's working with it."

"Whose science?" said Margaret. "The Visitors', of course. You don't have to think back beyond the Slum City blow up to realise that men just don't want to think for themselves—they're happy enough to accept the Visitors' help."

I sipped my drink, thinking very hard. At length I said, "Well, at least people marry here and have children. The children will grow up using the Visitors' knowledge. The chance won't be entirely wasted."

Even as I said it, I was acutely conscious that I didn't really believe it. But I steered the conversation another way after that. A temporary monopoly of Margaret was an opening no man in his senses would pass up. So I capitalised on it, and had a thoroughly good time

doing it. It's seldom that you find a woman who is beautiful, intelligent—and willing.

I had the beginnings of the truth by then, of course—though the truth wasn't what I thought. But I had nothing further to add to it for the next four or five weeks, except confirmation that Margaret's assessment of these people was sound. Men have used science and made a mess of it, was their implied decision. If there's a solution, it has to lie somewhere else. Meanwhile, I'm eating. Why should I care?

Then, finally, when I was wondering what I was going to report, and when and how I was going to manage it, things began to happen.

I was coming off at the end of my shift and handing over to my relief—a girl called Louise, with a red radiation scar on her right cheek, whose last name I never did learn—when Margaret came up to me and laid her hand on my arm. She seemed to be making a habit of it, I was glad to notice.

"Would you come up to Kinnaird's office with me?" she said. She looked troubled.

"What on earth for?" I said. "Not fulfilling my production form, or something?"

"I don't know. But he wants you in a tearing hurry."

"Right," I nodded, shucking my coverall. "I'll be right with you."

I took a moment out to go rinse the sweat from my face—despite all the air-conditioning, the concentration I used watching the tester always cost me a pint or two of sweat—and thought busily while I had the chance. Why did Kinnaird want to see me? I'd barely seen him since Walters and I had our first interview with him, except once or twice when he came and stood over me in the shop. He had the right attitude—he didn't interfere unless you fell down, and I'd been pleasantly surprised by that. From his own words, I'd assumed he was a chronic nosey-parker and a martinet.

I found Margaret again when I came back and went with her up to Kinnaird's office. Outside the door, Margaret leaned over and kissed me lightly on the cheek. I noticed that her eyes were red.

"What on earth——?" I began, but she cut me short.

"Go along in, Lew," she said. "He's waiting. So long." She ran off down the passage.

For a moment I stood there staring after her, wondering what was wrong, and then I set my jaw and pushed open the door of the

office. I was mentally ticking off all the things I might have done that would have displeased the Visitors, for this sounded as if it was going to be bad.

Kinnaird looked up from the desk. He had all the expression of a marble statue. He nodded at me and told me to sit down, so I did so on the same plastic bench as I'd used the first time. Kinnaird went back to reading something on his desk.

There was a third person in the room, whom I took for a clerk of some kind, since he held a tray full of punched cards and was riffling through them and making scribbled notes with a pencil.

Finally, Kinnaird pushed aside the file he had been studying and said, "Jackson, I notice you've been taking several trips around the Factory. You've been spending your free-days doing a grand tour, haven't you?"

I nodded. In that instant I regretted making myself conspicuous so early. Maybe I'd unknowingly wandered into a classified area.

Certainly Kinnaird's voice held no promise of hope when he went on, "You know that's very unusual, don't you? May I have your reasons?"

I tried hard to keep my nervousness from showing. I was going to have to bluff like nobody's business. I said, "It just made me worried working on things when I didn't know what they were, where they came from or where they were going. That's all. Besides, the Factory's a hell of a place—bigger than anything else we've ever had."

Kinnaird glanced across at the man I had taken for a clerk. He said, "Jackson, I'd like you to meet Mr. Rylem—one of our Visitors."

My heart sank, but I strove to show no more than interest and excitement in my face as I turned to the third man, who put down his tray of punched cards and looked at Kinnaird.

"This is our man," he said in a smooth, deep voice. "How do you do, Mr. Jackson?"

I muttered something about being fine.

"We've watched you closely since you came here," Rylem went on. "It was, as I believe you know, touch and go whether you went into the shop where you are now, because you seemed unsuited to that sort of work. However, it was judged best that you have some experience under shop conditions before we shifted you permanently."

What on earth did this guy mean?

"I'm happy to say that your instability manifested itself in no

more than a healthy interest in the Factory," said Rylem smoothly. "Therefore, we are moving you tonight. Provided, of course, you are agreeable. You are to be foreman of a construction and engineering team working up north in E sector."

I swallowed. I didn't need to act excitement and pleasure. I felt too much as if I'd just been reprieved from a death sentence. I said, "That's terrific. But I didn't know there was an E sector."

"There isn't. Not until tomorrow morning."

"I see." My heart was racing. This might solve one of my biggest problems—how to get away to report if I had to leave in a hurry. Working on the outside legally, I could forget about having to work my way through the Factory under the noses of the constables.

"What is E sector going to do?" I asked finally.

"It will handle shipment of completed goods out to space," answered Rylem calmly. "In about three or four months' time we intend to change over from our present system of landings when required to a regular shuttle service. E sector will cover the area which I believe used to be called Yorkshire, where we have for some months been planning a landing ground. Of course, later it will spread much further."

There was much more than that, but it wasn't really so important. Mostly it was hints from Kinnaird on the running of a team of men. Two hours on the nose after I came off shift, I was on a train for the E sector site. I didn't even have time to find Margaret and tell her goodbye.

I had commanded army units during the War, and some of the assignments I'd had were a lot tougher than this one. Nonetheless, I was working a full twelve-hour day every day for the first three weeks I spent as a foreman.

I wasn't bothered by it, though. This job held out a chance I'd been praying for—the opportunity to get at some of the Visitors' secrets before they were sealed in. Literally, while they were still in the open—we were working under the sky for the first time.

The organisation, as always, was fantastic. The Visitors had a pleasing distaste for paperwork, and despite the fact that I had six crews of ten men, each with a crew boss, I spent less than three hours a day in my office, and my staff of three clerks—all Italians, from somewhere in the Anzio district—coped with less than I did.

The advance parties had cleared and graded the site for us, and the first thing we had to do was run a fourteen-mile extension of the railway out to the north-west. That, including stations and branches,

took us ten days. It wasn't that the men were working at a super-human rate—it was a matter of having convenient, portable tools for every job, fantastically precise handling machinery, and always having the right supplies at the right time for the job in hand.

I was enjoying myself. This was a job I could understand.

Then we got started on our launcher. I called it a launcher, but heaven knows what the Visitors' name for it was. It straddled the end of the railway. It not only included what I deduced from the blueprints was a sort of catapult cradle for a rocket, but in its base there were facilities for passengers as well as freight. My mind crawled when I first saw the plans. Were there going to be enough Visitors to use all these passenger areas, or were *we* maybe going to get the chance of using them?

I shut the idea out of my mind. It was altogether too tempting.

My team handled the actual construction work, but the catapult units which I had hoped to get a look at before they were installed came down ready-made in one of the big ships. I'll never forget the sight of that first landing. I had realised vaguely that somewhere or other to the north of us such vessels must already be coming and going, but I hadn't been able to find out more than that they put down in Scotland some place and their freight was shipped south by trucks.

Then, one morning when we had just about finished the main body of the launcher, a cry from one of my crewmen made me look up—and we saw it.

Work stopped from then on.

The ship itself was all of a thousand feet long. It was dropping in a steep glide towards us from somewhere over the Atlantic, and it was glowing cherry-red with the heat of friction. It must have been up at about fifty thousand feet when we first caught sight of it, but it was coming in fast. I knew that where the Visitors were concerned accidents just didn't happen, but I wanted like hell to duck behind cover as I saw it come screaming at us.

I didn't yield, though, and never regretted my determination. The sight of that monstrous craft swinging suddenly through what must have been a four-gee turn into a vertical attitude was like watching an elephant on ice-skates cutting a figure eight. It wasn't possible to handle a mass like that with such grace and precision—I thought.

Then it sat down on its jets beyond the horizon, and a mist of steam from damp ground rose where it had settled.

I wiped my forehead and turned away. With a sudden start I



realised that Rylem, the general manager of Sector E, had been standing at my elbow. I hadn't heard him come near me.

"Quite a sight!" I said fervently.

"I can assure you that the take-off is much more spectacular," he said, smiling faintly. "And unless some work gets done here, there won't be any take-offs for some time."

I took the hint and bawled my men back to work, but the memory haunted me for hours, until a more disturbing thought drove it out. Rylem had shown up very opportunely. Now I came to think of it, he had developed a habit of showing up around where I was. I sweated for a bit, and thought back to find out if I'd done anything else which might have given him to worry. I checked myself out clear, but there was no telling what the Visitors would regard as innocent.

I'd do well to watch myself, I thought.

That ship brought the—mainspring, I decided to call it—of our launcher, and work went ahead steadily. It hardly stopped even for the next landing which took place. This one was much smaller, anyway, and seemed to carry only personnel, and I saw the reason for the launcher we were working on. The way I figured it, the big ships

carried enough reaction mass to land and take off again under their own power, but the smaller ones needed assistance.

Rylem showed up around me very frequently between then and the completion of the job. Probably he'd been doing so before, but now I looked for him, I seemed to find him under every stone. It bothered me, before I realised that the time was getting close when I would have to court expulsion anyway and go home to report. I didn't want to face the idea. I was getting so wrapped up in the Factory that I would as lief stay there permanently and study it.

Finally it was finished, and Rylem popped up again and told me to write up my report and then give the men the day off. The next launcher wasn't getting started until three days from then. So I did just that.

Then I walked out of my office and thought suddenly of Margaret. I hadn't been to see her since I was transferred—I hadn't even written, though the postal service was excellent.

I cleaned up, put on my best bib and tucker, and took the train back to D Sector.

I looked for Margaret in her office, and one of her friends told me she'd gone off duty. I was hunting through the recreation centre for her when I ran into Heinz Schulmann. His explosive greeting made me sit up and take notice.

"Lew!" he said. "Wir dachten, man hatte dich herausgeworfen!"

"Say it again, slowly, in English," I requested.

"Ve t'ought you vas kaputt! Fired!"

"Why on earth did you get that idea?" I demanded.

"Vas everybody sayink so," Heinz declared. "I efen ast vit Marg'ret, and sche sait you vas unstable factor and vas fired."

"Thanks for the compliment," I said, grinning. "No," they promoted me. Made me foreman of a gang up in E Sector."

"Iss no sutsch place," said Heinz. "Wo ist dies E Sektor?"

"Yorkshire way. They only just got started on it. Look, Heinz, I'd love to stop and talk, but I want to find Margaret and say hullo."

His face suddenly went dead on me. He said evasively, "I'm sorry, Lew. Weiss nichts."

I took it philosophically. If he didn't want to tell me, he wouldn't. So I went on looking by myself, and after a few minutes' more searching, I found her.

I tapped her on the shoulder and said, "Guess who?"

She whirled. "Lew! I thought——"

"You thought I'd been fired. Heinz told me. I ought to have let you know, but I couldn't—I've been working a straight twelve-hour day, and this is the first full day I've had free since I got promoted. How about coming out and doing the rounds with me tonight?"

"Lew, I'd love to, but I can't. I'm spending the evening with Tim."

It was just at this point that Tim Walters showed up. He'd apparently been in search of a drink, for he was holding a glass in each hand. He greeted me, but there was something insincere in his voice.

Then I noticed the hand which Margaret stretched out to take her drink. She used her left hand, and the ring on her third finger—heaven knows where Walters had got it from, since I'd never noticed that jewellery was one of the Factory's products—gleamed in the light.

I indicated it without saying anything. Walters nodded.

I regretted it—and yet I didn't regret it. It gave me my reason for expulsion—losing Margaret—and yet I'd never been able to allow myself to have any permanent plans within the Factory, so it didn't hurt too badly. I could act as if it did, though.

I said, "Congratulations," in as sour a voice as I could find, and walked away.

The next step, logically, was to get drunk and show up late for work next morning. So I did that.

I found a bar where there weren't too many people I knew, and ordered up three or four shots in a row. While I was still wondering whether I ought to leave so soon, or stay and add to my report, I had the idea of going over the conversations I'd had with Margaret to lend a convincing air of melancholy to my sorrow-drowning. I remembered the night when she told me I was an unstable factor in the eyes of the Visitors. I saw why I was an unstable factor. I realised that I already had the whole of my report.

And it was unfavourable.

I was still thinking it over, trying to find a flaw in my assessment, when there was a voice at my elbow. I turned to see one of the last people I'd expected to meet—Kinnaird.

He produced one of his mechanical-looking smiles, which I knew was genuine enough under his mask-like face, and said, "How are you doing up in E Sector?"

My first reaction was, "Hell, the guy's human after all!" After that, I remembered his description of himself as a man who would

never do anything to cross the Visitors, because he owed them so much. I guarded my tongue carefully, and when we'd had a drink or two together he showed an interest in the work we were doing in E Sector, so I told him about the launchers and the details of their construction. I discovered he'd been a bridge engineer before he was put on to shop work here, and we found a lot in common. I recall wondering why, if the guy was so whole-heartedly for the Visitors, they hadn't given an intelligent and interested guy like him the job I was on.

Then I lost touch.

I woke up in an empty cubicle. I didn't remember getting there, so I guessed Kinnaird must have helped me. I felt like hell. I had a mouthful of sour taste and my head ached vilely. But when I remembered why I'd done it, I judged it worthwhile. When I checked my watch, I found I was satisfactorily late for work.

I took my time over the trip back north, acting as if I was past caring whether I got fired or not. I didn't see anyone I knew even when I got within a few miles of the edge of E Sector, and that was good.

I left the train at the E Sector central terminus—not the one which ran clear out to the base of the launcher. I came up out of the building to find a light rain spotting the earth, and to find that the small ship which had landed the day before, or another exactly like it, had been manoeuvred into position on the launcher. I was just in time to find the jets being warmed for take-off.

People were standing around already, so I joined them. This one take-off I wanted to see. I might never have the opportunity of watching another.

Then the unbelievable happened.

The jets reached full output, and the puddles of rain beneath them steamed into boiling. I saw that the heavy compression units—the mainspring—were tight down in their sockets, ready to lend the ship extra impetus. And then the launcher gave way.

As if it were a child's Erector model in which the bolts hadn't been properly fastened, the entire structure sagged, leaned, folded. Whoever was in command of the ship realised in time what was happening, for the jets cut off abruptly, but I realised that if the engines were damaged, the whole of Yorkshire might go up.

There was no emergency procedure laid down—there just were no accidents in the Factory—so the watchers were milling around like ants. A few people managed to run out of the collapsing rooms

at the base of the launcher before they hit the ground, but I knew there would be many who were trapped.

I forgot my hangover. I saw a small electric carry-truck standing unattended nearby, so I commandeered it, started it up, and went into the nearest opening into the Factory, screaming for my construction crew at the top of my lungs. I found several people walking around, and ordered them summarily to drop what they were doing and get outside and help. At the bottom of the ramp leading to my own office, I left the truck and ran. While I was reaching for the phone, I shouted at my office staff in bastard Italian to get out and lend a hand with the rescue.

Finally I got on to the operator, and told her to put out a general alarm for all available construction workers to take their equipment to the scene of the disaster. We were going to need everything—torches, drills, earth-moving equipment—I added to the list as I thought of it. Lastly, I told her to notify Rylem and any other Visitors that might be around.

Then I took my truck back at full speed to the wreck.

I summed up the damage without much trouble. The ship was trapped, but presumably if it could look after itself in airless space, it wouldn't do it much harm to be buried under a pile of rubble. The ante-chambers were the important part. I set a team of welders to work cutting the main girders which blocked access to the interior, and set anyone and everyone I could find on to moving the debris by hand. One false move, and anyone trapped in a void inside might be crushed by falling concrete.

For most of the day I worked without thinking. I came out of my preoccupation long enough to notice that some Visitors I knew had shown up and were directing operations, but aside from the memory of shifting debris my next conscious recollection is of some of the rescue workers ahead of me suddenly turning and running, screaming aloud. From the gap in the ruins where these had been working came a pungent smell.

Gas! And no gas I recognised.

It seemed to be fatal, for the men nearby were falling in desperate agony. I shouted for one of the Visitors, assuming that it was some by-product of the rocket exhaust, but apparently they had already noticed, for almost at once a man wearing a cumbersome insulated suit drove up on a truck of a type I hadn't seen before—probably one used by the earth-moving people—and drove straight into the gap in the rubble with a mighty churning of treads which shoved tons of it aside as easily as if it had been sand.

It was full dark, I realised suddenly, and we were working by floodlights which didn't illuminate the dark hole through which the suited man had gone. I looked around. The job, aside from this mysterious gas, was almost over.

Then someone came up to me and spoke. "Mr. Jackson?"

I nodded, acutely aware that I was sweaty, dirty and tired beyond belief.

"Mr. Rylem wants to see you," said the stranger. "Would you come with me?"

I followed like a trained dog, too weary even to wonder what the manager wanted me for.

I had to wait for ten minutes or so, before Rylem showed up, and was practically asleep in my chair when he came in. With him was another Visitor—not that he looked any different from a man, but Rylem looked at him as an equal.

"Good evening, Mr. Jackson," said Rylem, perching on the edge of his desk. "I'd like to ask you a few questions. You were the foreman of the gang who built the launcher which collapsed today, weren't you?"

I nodded. I guessed what he was going to ask next, and I already had my answer.

"Did you notice any fault in the design, any structural defect, which might have accounted for the disaster?"

I shook my head. I said, "God knows how it happened—I don't. Unless it was ground subsidence."

"Or sabotage," put in the other Visitor quietly. "You were absent from duty this morning, Mr. Jackson. Why?"

"If you must know, a girl I used to know is getting married to somebody else."

"Will you check on that story, Nusil?" said Rylem, and the second Visitor nodded. "To continue: perhaps you had better know that we have proved it to be sabotage. We found the remains of an airmaker buried under the pile of rubble. It had been set to secrete fluorine into a confined space at a key point of the foundations. Before we promoted you, you worked in the airmaker shops, didn't you?"

"Now wait a minute," I said, rising. "Are you trying to tell me that I sabotaged your launcher?"

"The method employed," said Nusil quietly, "argues a close acquaintance with the internal structure of the launcher, plus a

thorough and detailed knowledge of stress mechanics. I doubt if I could have done the job so neatly."

"Well, I didn't," I said shortly. "I wasn't anywhere near here until just before it happened."

"That we can check," said Nusil, rising. I followed his movements with my eyes, but I was too tired to draw an obvious conclusion until he held out his hand in front of me and broke a small glass phial between his fingers. I smelt a sickly odour, and struggled to sit up. But I couldn't.

The worst part of it was that I was fully conscious. I had never been under truth serum of any kind, and I doubted that even the commissars had developed one quite so efficient.

Nusil set a recorder going, and then, in what appeared to be a routine procedure, asked me, "What is your name?"

For a moment I almost managed to remind myself that I was Lewis Roland Jackson. But I failed. From a vast distance I heard my own voice say, "Peter Lee Friburg."

In disbelief, Rylem and Nusil sat forward. The former demanded, "Why do you call yourself Jackson?"

"I am an agent of the United Nations," I said. "What you would call a spy."

The Visitors exchanged glances. Then Nusil left the room in a hurry. This was more than they had been bargaining for! He returned in a moment with a third man, who appeared to be a higher authority, talking in a language I didn't recognise. It occurred to me with amusement that I might well be the first man on Earth to hear the Visitors' language.

Rylem took it from there.

They cleared me from the sabotage count as if that was a minor detail, and then went on to discover that I had been intending to leave and make a report. Some of my hatred for these people crept into my words.

Nusil and the newcomer listened attentively.

"Give me the substance of your report," Rylem ordered finally.

"I intended to state that the Factory is a fake. You are not a space-dwelling people any more than we are. This place is a cover for the taking over of the planet. You are afraid of us, and in order to prevent us coming out into space you intend to make us economically dependent on you."

I knew as I spoke that I was defeating my own purpose, but I couldn't help myself.

"I am an earth-born man. My loyalty is to my race. You may be justly afraid of us, but it is necessary that the Factory be destroyed. It is sapping the interest of the intelligent men who work here. When it is completed, they will be no more than parasites."

Then an unbelievable thing happened. The three Visitors threw back their heads and laughed!

There was a pause after that while the Visitor whose name I did not know used the phone, talking in his own tongue. He seemed to have been told something interesting by whoever he called, and when he put down the receiver he turned to me.

"We've found the saboteur," he told me. "He's being brought here—I think you might be interested."

The door opened again almost at once, and two uniformed constables brought the—saboteur—into the room. Despite the torpor the drug had brought on, I felt a strange shock when I recognised the immobile, characterless face of—

Kinnaird!

The constables placed him in a chair. He seemed to be in shock, or else he too had been drugged—I could not tell which. This was the saboteur—this man who owed everything to the Visitors? I couldn't believe it.

"He tells us," said the senior Visitor, after a pause to let the shock subside, "that he came to the same conclusions as you did, and not having the chance of reporting it to the government, he thought that his only means of revenge was to take personal action. We tracked him down when he did not report for duty today. I must say that I admire your guts, Kinnaird, but of course both you and this man who called himself Jackson were hopelessly wrong."

He signed to Rylem, and the latter broke more glass phials under our noses. Their action was as swift as the first—in a moment I could move normally again. I stayed slumped in my chair, though. All my chances had been wasted. I had no reason to carry on.

"Kinnaird had taken a deeper interest than you in our science," Rylem said as he threw away the slivers of glass. "I must congratulate him on mastering the design of the airmakers so well. I don't know the fluorine setting myself. I suppose you told him about the design of the launcher so that he knew where to put it?"

I nodded, remembering my casual conversation of the night before. Then I sat up and said sharply, "You said we were wrong!

That must be a lie. The Factory is a fake, I'm convinced of it. You aren't building space cities."

"Of course we aren't," said Nusil. "We're building cities and spaceships for Earth."

Then they told us the truth.

Thirty thousand years before, on a planet more than halfway around the rim of the galaxy, men had discovered space flight. *Men*—human beings! They mastered the secret of interstellar travel, and set up colonies on other worlds, most of which were only vaguely like the one from which they came, and where they had to struggle to live at all.

Out of the many ships they launched, it was inevitable that some should be lost. One such, filled with a crew of explorers, carrying out a survey many lightyears beyond the furthest point previously reached, was lost—but it also found. Found the thing which mathematical odds had predicted must exist, a world identical to their own, even to having man-like apes upon it.

"This is conjecture," interpolated Rylem, "but it fits the facts. How and why the ship was lost, we don't know—maybe the engines failed, and they drifted for years; maybe there was mutiny, because the crew were an aggressive, restless lot, the true explorer type. Nonetheless, they landed here. They were your ancestors—only six hundred of them."

With a struggle, they lived on, losing their science for want of all that goes with a technological civilisation, but remembering their intelligence and cunning. In time, they bred, and since they were genetically unstable, they fought. They built civilisations, developed a science, and in course of time they fought an atomic war. *The War*.

Lightyears away, some observant scout using means which we could not even suspect, detected a small-scale release of atomic energy—too small for a sun. They came to look and they found—

"The lost colony," said Nusil soberly. "You are our cousins. You're right, of course—we do want to make you dependent on us, but only because you belong, not because we are afraid of you. Your faults lie in your heritage, not in yourselves. Your instability will be re-absorbed in time, and your children will grow up with all the knowledge which you thought we were using to stunt you and keep you earth-bound. But we don't want you to be parasites, even if you were willing to accept the rôle, which you aren't. We intend you to be a full-fledged branch of the race."

That much, of course, was words, but there was proof. Proof, in that the Visitors were human. They did not only look human—they had vermiform appendices, the same number of bones in their skeletons, the same number of genes in their cells. That in itself was enough. It was stretching belief too far to try and substitute the idea of parallel evolution—an alien race might have been similar, but it could never have been identical.

At length, with a wry grin, Rylem said to me, "Well, *cousin*? Are you still going to make that report?"

I nodded.

"Are you still going to ask that this place be turned into rubble with a hell bomb?"

"No," I said. "I'm convinced. But why—why—why did you have to keep it secret?"

His face clouded. "That's your fault," he said sombrely. "You're afraid of tomorrow. What would these people say if we offered them what we have—now? They're not interested in anything but taking what we have. No parasites—remember? They must come and ask us for it of their own free will."

I saw his meaning. I saw it only too clearly.

"Now, shall we make arrangements to have you expelled from the Factory? I think we might make it on the ground of temporary instability, with leave to re-apply for your job in about a year. Does that suit you?"

"To perfection," I answered. "And—thank you."

I wanted to do much more than thank him. I wanted to cry on his shoulder. I wanted to—

But our—cousins—would have to wait for our gratitude, even if that was all we would ever be able to give them. Meantime, the salary of the hired help was out of all proportion to the work.

What task is there for which the inheritance of the stars is good and sufficient reward?

JOHN BRUNNER



Risk Economy

*The world was not as he remembered it of long ago nor
were his friends who had forgotten of his very existence*

He imagined he could see the blue-green of sea and forest long before Earth was more than a pin prick of light on the vision panel.

He was coming home, coming back to Earth. He blinked, his eyes smarting.

"Sentimental idiot," he said to himself savagely.

But five years was a long time, five years of interstellar speeds and unthinkable distances. Five years in a tin tube, breathing sterile air, drinking tasteless water, eating concentrate tablets and protein-cereal roughage which tasted like wet saw-dust.

Five years of Godawful nothingness save for the strange inhospitable planets which had rolled away beneath his keel. Planets recorded on tapes within the vessel but upon which he had never landed. Strange planets and crazy systems, everlasting darkness and the eternity of space—five years.

Five years to him.

They'd built the motor, beaten faster-than-light velocity but they couldn't beat the Einstein effect.

Five years to him, but, according to the Chronometer, *nine hundred years of normal time.*

There were tears in his eyes again. Nothing would be the same,

cities and customs, continents and people. Old friends and dear familiar things—dust, drifting and forgotten.

If people met him they would be strangers, strangers in more senses than one, perhaps speaking a new and unknown tongue. Strangers, yes, but perhaps remote descendants of Pragnal, or Lewis, or Julie. Julie, God, you couldn't imagine Julie dead and gone. It seemed like yesterday her lips had clung to his as he passed through the final barrier to the ship. He could see her now, hair shining in the sunlight, the tiny waist, flaired blue skirt, high-heeled strapless sandals and the blouse which revealed more than it concealed. He supposed he had been in love with her in a way but this—this flight—it had come before anything else in the world. He'd been moulded for it, trained for it, lived in its expectation for so long, so many years, he'd *had* to go; despite Julie, despite the dangers or, perhaps, because of them.

Again, there was the human element, the peculiarities of the mind which can comprehend but not accept. He'd *known* about the Einstein effect, understood the concept in a broad way but could not *believe* in its reality. He could not *believe* it would really happen, could not believe that those prodigious leaps in hyper-drive would warp him, and the ship, out of the normal time continuum and into a decelerated one of his own.

He looked again at the Chrelo-meter. He did not understand how it worked but he knew its purpose. It was a large, round dial set above the control bank with two sets of figures. An upper row of figures, in black, indicating time relevant to the ship and a lower row, in red, indicating normal time. When he had first thrown the vessel into the warp the two rows of figures had been the same, but once the "shift" switch was depressed the red figures had begun to blur.

It was a year before he could accept the fact that Julie was dead, had died, a long, long time ago. He'd rested his head in his arms and blubbered at the controls. He'd known but couldn't *believe* it could happen. The Chrelo-meter was kicking Julie's life away, kicking everything away, all he'd known, nine hundred years away. He would be an alien returning to aliens.

A pin-point of light on the screen, Earth, home, but nine hundred years older.

It looked the same, almost frighteningly the same. He stood at the open port, drank in the clean air and felt the sunlight touching his face.

This was the field from which he had blasted off, nine hundred years before. It had been a job to find it, the sunken blast pens were

hollows overgrown with grass, the derricks, cranes and administration buildings removed, or long since fallen to dust. An oak tree stood green in the sunlight where the reinforced control tower had once commanded the whole port.

But Earth was alive, he had seen the long straight roads, the cities and the air traffic as he had come in to land. The overgrown and discarded port he had expected. In nine hundred years a race could have perfected space travel and abandoned forever the colossal state-wide blast fields which had been common in his day.

He did not see the bubble until it was within a hundred yards and, although it held three men, it looked too frail and translucent to survive a gust of wind.

He leaned against the hull of the ship, looking upwards, feeling a constriction in his throat and a tightness in his stomach; knowing fear, elation and a bursting feeling in his chest. Men, after five years of loneliness, and now—even if they were strangers, they were men, weren't they? His own kind.

The bubble touched lightly on the grass and the men stepped out unhurriedly. Their clothing seemed much the same as that to which he was accustomed save that one of the men wore a short purple cape.

The first man was coming forward, hand outstretched. "Jerry—it is Jerry, isn't it? Glad you made it, glad you got back."

Jerry stared. The man was dumpy, red-faced with pale, rather prominent blue eyes and untidy hair. Pragnal! but it couldn't be, not after nine hundred years. A sudden hope rose within him, perhaps there was no Einstein effect.

"Nine hundred years is a long time," said the man who looked like Pragnal, "a very long time, we must talk about this, Jerry."

"Not yet," said the man in the short purple cape, "not yet." He pointed something black, steadily, like a weapon. "Please accept our apologies, Mr. Crane, but this is a kindness, almost a salute."

The black object flashed, a brief violet cone of mist seemed to hit him full in the chest. He was quite conscious until he hit the ground. "Oh, God, he was thinking, oh God, all that and now they've killed me. What a damn dirty trick, and what have I done?"

They hadn't killed him because he could hear their voices very far away.

"You might have warned him." Pragnal's voice, or the voice of the man who looked like Pragnal.

"It is the best way, by far the best way in the long run. Once it is over everything can be explained at leisure." He supposed it was the voice of the man in the short purple cape. It was an austere,

rather unctuous voice like that of a clergyman he had once known in his country birthplace as a boy.

"Yes, yes, when everything is over, it can be explained at leisure. We cannot have an intransient in a static society, can we? If you will help me lift him, please——"

Everything seemed to fall away and he dreamed he was floating on a sea of purple capes somewhere among the stars.

He regained consciousness slowly, hearing, but not understanding, the conversation which seemed to drift above him.

"I'd like to be in this fellow's shoes—forty thousand Heroes——"

"I'm in a bad way myself, down to forty Hazards——"

"This chap needn't worry—not for at least twenty years anyway."

He stirred, conscious of stiffness and someone poured some liquid in his mouth which washed him again into darkness.

He awoke fully, much later. "Forty thousand Heroes? Forty Hazards? A new usage or a new language?"

A man in a white coat took pulse and temperature readings. "Tomorrow you will be well enough to meet the Banker."

Crane tried to sit upright and fell back weakly. "Look, what is this? Won't someone please explain the language?"

The man looked at him blankly. "Something you don't understand?"

Crane said wearily. "Who or what is the Banker?"

"Of course, you've been away haven't you?" The man nodded, understandingly. He became almost loquacious. "A Banker handles your accounts and determines risk percentages." He leaned closer, lowering his voice. "If you ask me, it's not fair, a man who is prepared to take a hundred and twenty per cent. risk is obviously psycho in the first place. If he gets away with it, they not only make him a Banker but grant non-risk privilege. A Teller gets almost the same rights save that minor risks are incurred when he has to close accounts. As I said, it's all wrong, but what can you *do*?"

Crane stared at him. "I wish," he said, slowly, "I knew what you were talking about."

The Banker was a big broad-shouldered man with one side of his face curiously rigid and unmoving. He smiled lopsidedly and held out his hand. "Congratulations, Mr. Crane, you are a rich man." He pulled up a chair and sat down by the bed. "The computers rechecked your assets only an hour ago and I'm pleased

to inform you that a ninety-five per cent. risk, extending over a five-year period, brings you a return of forty-three thousand Heroes—a fortune.” He smiled his distorted smile again.

Crane listened without comprehension, trying to find something familiar in the man’s words from which he could make sense. There was something peculiar about the man himself also, apart from the twisted face, his hands didn’t match. One was brown and strong whilst the other was white, thin and almost transparent.

He’s got a genetic hand, thought Crane, dully. He’s lost a hand sometime during his life and they’ve grown him another.

The Banker was still talking. “The financial system is without complication, Mr. Crane. A hundred Chances to a Hazard, a hundred Hazards to a Hero, what could be simpler? The only differences between your money and ours is that ours is *personal*. In short, every note or coin you possess is keyed to your personality characteristics. An automatic teller or robotic sales machine would instantly reject notes or coin submitted by an unlawful owner. Crime is, therefore, not only unknown but impossible.” His eyes narrowed a little. “Loans, credit purchases and other dubious transactions, applicable to your day, are likewise impossible.” He laid a pile of notes on the bed. “These are for your immediate use, treatment expense and so on.”

“Treatment?”

“Why, yes, didn’t they make it plain? You are one of us now, we couldn’t countenance an intransient in a static economy, could we?”

When the Banker had gone, Crane lay for a long time staring unseeingly before him. Had the world gone mad? Perhaps he had not expected fame but he had expected scientific interest, but no one was even interested in his achievement. The first man to clutch the stars and no one cared. He’d thrown away the world he knew, his friends, his ties and Julie, and what had he got out of it? Not even recognition, not even a sense of achievement, the total gain was a few strange looking notes called Heroes.

Pragnal! His mind clutched at the name. A man who, by a curious coincidence of genetic repetition, resembled his old friend almost completely. Pragnal, who had wept openly as he entered the ship. Pragnal, who had laboured year after year to make the flight possible and whose genius had given man the stars. This man, however, who so closely resembled his old friend, knew something about the past. Perhaps this man was, after all, a direct descendant

with personal records, in any case he had to find him. As soon as they permitted him to leave he'd find the man wherever he was.

It was not difficult, a note had been left with an attendant giving an address. It was signed: J. Pragnal.

Pragnal opened the door to him. "Come in, Jerry—Gerald?" He indicated a chair nervously.

"You are Mr. Pragnal?" Crane hesitated.

"Yes, I'm Pragnal, you received my message, I hope?"

"Yes." Crane sat down slowly. "I suppose you are a descendant of James Pragnal."

"I *am* James Pragnal." He looked perplexed and vaguely worried. "I thought I signed my name, I thought you knew."

"I mean the Pragnal who built the ship." Crane had a frightened feeling they were speaking at cross-purposes.

It was the other's turn to look puzzled. "But I did build the ship, at least I built the——." He stopped, lost in thought. "I can't remember the name or purpose of the instrument I designed, but it was to overcome an effect of some kind, the——." He snapped his fingers irritably. "I can't remember." Then his face lightened. "You're just back, you've just used it, what was it?"

"For God's sake." Crane was on his feet. "What is this, a madhouse? How can you be the original James Pragnal, he's been dead over eight hundred years."

Pragnal stared at him stupidly, then slowly comprehension dawned. "Oh my God," he said, "didn't they tell you? We're immortal now, it happened about ten years after you left. I should have thought they would have told you when you took the treatment, you're one of us now." He laughed thinly and bitterly. "God help you when you've eaten through that nice little fortune of yours."

Crane found himself clutching the arms of his chair, the palms of his hands were dry but his face felt damp and hot. "Perhaps you could begin at the beginning—I've been away a long time. I could use a drink, you still drink, I suppose?"

Pragnal nodded with unnatural vigour. "Yes, a drink, an excellent idea, excellent. Then I'll get my diaries——" He paused. "You don't understand I can see." He sighed. "A man's capacity to retain a memory is a bare hundred and fifty years, memory is slowly erased by fresh experience, fresh data, there is a limit to retention." He sighed again. "I knew your name, I knew you existed, I knew you were coming back, but only from records, I can't remember you." He turned abruptly. "I've specifications, blueprints, volumes

of mathematics, all relating to the ship, but I can't even remember what they mean."

"Yes." Pragnal fumbled through his notes. "After you left, about ten years after you left, someone made the discovery. A man named——" He turned a page hurriedly. ——Lietzman, that's it, Lietzman, a serum of some kind. We thought it was for longevity only but it proved to be much worse than that. It was not long before someone discovered that the characteristics of immortality were passed on, genetically, to the next generation. After that, of course, there was no turning back, we had become an immortal race whether we liked it or not."

"What happened after the discovery of the serum?" asked Crane.

"There was a war, I think." Pragnal referred to his notes again. "Yes, a tremendous war. It was the longevity, you see, people being born and no one dying, the food running short and the earth overcrowded——." He sighed. "It was the beginning of all this——." He stopped, staring unseeingly before him, his mind obviously wandering. "These notes tell me I built a device for a space ship but I can't honestly remember what it was."

"But didn't you try again? Build another? It was your whole inspiration, you lived for it."

"Lived for it? Did I? How strange, things must have been very different in those days. There's been a war you see, and after it, the new economy."

"What is this new economy?" Crane was leaning forward in his chair feeling strangely empty inside.

At first the other did not appear to hear but kept on talking, almost to himself. "Where would I get money to back research and there isn't time between risks, no time at all——."

Crane was horrified to see tears in his eyes. "About this economy, what is it?"

Pragnal stared at him dully for a moment. "It's a risk economy, of course, what else could it be?" Before Crane could ask, Pragnal shouted. "Don't ask me, you find out but don't ask me." A muscle twitched in his cheek and his hands shook uncontrollably.

Crane rose. He was talking to a stranger, and he knew it. "One relatively unimportant question, is Julie still alive?"

"Julie? Julie?" Pragnal was almost pathetically relieved that the other had not pressed his questions. "Let me see, I don't think I recall. Was I married to her? I've had so many wives, don't

bother now, it's such an effort to make the money *last*."

Crane resisted an impulse to shake him angrily. "Please look in your diaries," he said quietly.

"She would be mentioned, would she?" Pragnal began to turn the faded pages slowly. "Ah, yes, here we are, Julie Masters, would that be the one?"

She had listened to him patiently. "I don't remember you, of course, how could I?" She sighed. "It's nice to see an old friend, even one I can't remember." She smiled, sadly. "I don't have many visitors, I'm a psycho, you see."

"A psycho! You?" He half rose from his chair.

She nodded, avoiding his eyes. "They can't erase the fear between risks, I wake up screaming. Of course it's there with everyone but not so prominently." She shrugged almost irritably. "I get a sixty per cent. return for a fifty per cent. risk, so I suppose I shouldn't complain." She paused, staring at him. "Were we once very close, was I ever in love with you or something?"

"We'd known each other a long time," he said evasively.

"I wondered, you're nice, sort of unfinished about the face, but nice. I feel at home with you and I just wondered."

He nodded without speaking, not daring to look at her. It was the same Julie, childishy direct and without subtlety. The way she put her head on one side when she spoke—God, he was still in love with her. He'd thought of her as dead so long and now—. Perhaps, he thought with sudden bitterness it would have been better that way. Someone you loved who didn't remember you. It was like talking to a ghost or watching a visio-tape of someone now long dead, hearing the voice and seeing the form yet knowing it lacked life. He was back with Julie but there was a gulf between, a gap of nine hundred years.

"Would you like a drink?" she asked quickly. "This is a celebration, yes?"

He waited while she mixed the drinks and handed him the green liquid in a long, almost invisible glass.

"Julie," he said softly. "We were once very close, do you think you could talk to me?" He hurried on before she could answer. "I've been away a long time, the world has changed and I don't understand it. I expected scientific progress but the world seems static." He waved his hand vaguely about him. "This room, it's like a million others, two wall screens, one large and one small, which no one seems to use. There's a new economy which everyone seems

frightened of and no one will talk about. God, what's happened to the world, has it gone insane?"

She looked at him with sudden understanding, then her eyes misted, when she spoke it was almost in a whisper. "I'll talk—God, if only I had someone to talk to it mightn't have been so bad. People keep quiet now, because they're afraid, don't want to be reminded of the next risk, because it's tradition, superstition and a hundred other factors which have grown into the culture." She crossed the room and touched a button beside the major screen. "People do use these screens." The soft mouth twisted a little. "They use them when they're running short of money." She touched another button. "Something fast and spectacular, yes?"

The screen lit. "A sixty-five per cent. risk," said a voice. "Plus a two and a half per cent. bonus for first, second and third."

He was looking at a long line of projectile-shaped vehicles. As he watched a track plan was superimposed over the picture showing two long straights and many S bends. Motor racing? What was new about that? True, the vehicles had massive thrust tubes but that was only a new means of propulsion in a very ancient sport.

"Do they go very fast?"

She nodded. "They must exceed two hundred miles an hour to qualify for payment."

He sprang from his chair. "Two hundred! On that track?"

She made a helpless pathetic gesture. "I can't look for long, some of the skilled drivers break the sound barrier and a tiny gust of wind can bounce them right off the track."

Before he could ask further questions the line of vehicles suddenly leapt forward at some unseen signal. He watched them hurtle towards the bend, violet flame flickering from their thrust tubes. The corner was crowded with sightseers, bunched dangerously together and without protective barriers. As the cameras followed the cars he saw there was a notice above the crowd. "VIEWPOINT 2. RISK APPRAISAL 15%. Were these people mad?"

The sound of the machines had now risen to a high-pitched thunderous shriek which grated on the nerves and, as he watched, two of the vehicles touched on a U turn. There was a rending sound, a shower of sparks and a brief muted explosion. One of the vehicles slithered round the bend shedding flaming fragments and rapidly disintegrating, the other plunged straight into the crowd, cutting a bloody swathe—

The screen blanked abruptly.

"I couldn't stand it." She was hunched in a chair with her

hands over her face. "I'm sorry, but I had to cut it." She was trembling visibly. "When your money begins to run low you sit in front of those screens day after day, trying to pick a risk you think you can take, a risk you'll come back from." Her voice broke. "Oh, God, I'm so afraid."

He strode across the room and gripped her shoulders. "Why, Julie, why?" Almost he shook her. "What is it all about?"

She stared up at him dully. "To live in an immortal society, you have to prove yourself worthy of it, don't you? You take a risk."

"But that's insanity—madness." He was shouting.

"Is it?" Her voice was expressionless. "How else would we keep the population down? It would mean another war, wouldn't it?"

His hands dropped from her shoulders. There was a knot of coldness in his stomach and the beginnings of understanding. It made sense, how else would an immortal people keep their numbers to reasonable limits?

"You see," she said, "there is no work, robots and automatic factories supply food and necessities, so they started the new economy. A citizen is paid for the risk he takes."

He sat down heavily. He understood. If one wanted to live in this society one had to prove oneself worthy of it by taking a risk. Payment depended upon the nature and duration of the risk. His flight had aroused no scientific interest because none remained, people were too busy trying to stay alive. He had, however, been rewarded according to the economy of the age, a ninety-five per cent. risk spread over a five year period—forty three thousand Heroes. In either case society made out, if the citizen survived he had proved himself worthy of survival, if he didn't, the population was kept within reasonable limits. A big risk with a big return or a small risk with a negligible period of peace before the next one? He found himself beginning to sweat when he realised that within a few years it would be *his* problem. Yet it made a kind of sense, an insane sense like the logic of a madman.

"What happens if you refuse?"

She shrugged. "The Teller will come to close your account."

"But it's insane, surely there was some other way? Rigid birth control, for example?"

"Oh yes." Her voice was listless. "It was tried and most effectively but it didn't solve the problem. It didn't stop the drunken orgies, the dissolute parties, the racial decadence."

He lit a cigarette with a hand that shook. He had not considered the psychological impact of immortality, a people suddenly released

from the fear of death, knowing they could never die save by violence. The resulting emotional release must have been colossal with immediate and accelerating degeneration. He smiled twistedly to himself. It was bitterly ironic that an immortal people had been compelled to re-introduce death into their culture in order to preserve the race. A new order based upon necessity and death by violence—a risk economy.

He crossed to the screen and pressed buttons at random——

“Sixty three per cent risk,” said the voice. “Skill. There is a five per cent. reduction for experience.”

There was a thin wire stretching over an impossible abyss, balanced precariously on the wire was a tiny human figure. The camera brought the figure closer. There was evidently a hidden wind machine somewhere for the man’s clothing fluttered wildly as he slid one agonised foot before the other. The camera moved closer, upwards to the face, so close that Crane could see the tight muscles in the pale cheeks, the film of sweat on the tortured face.

“The wire is greased,” she said.

As she spoke the figure swayed, clutched wildly and futilely at the air and fell. The long, thin fading scream of despair was cut abruptly as Crane flung his glass full into the centre of the screen.

For a long time he sat silently, staring before him, then he rose. “You don’t remember what it was like before all this, do you? There were risks then but they were part of life, we accepted them for what they were, no one arranged them for us. True, we often took risks deliberately but the motives were different and the ends often unknown.” He rose tiredly. “This I can’t take.”

“What are you going to do?” There was something very close to despair in her voice.

He shrugged. “I’m going back to the stars.”

“Another risk?”

He put his hands on her shoulders gently. “Not your kind of risk. There are worlds out there, worlds on which people could live decently, start afresh. It might be a long search finding one but we’ve all eternity to look——”

The Banker climbed stiffly from the Bubble and leaned heavily on his stick wincing. “That is the ship?”

“Yes.” The Teller’s voice was almost irritable. “Of course, the man has not been here long enough to fully absorb our culture but even then the whole project is insane. The fellow has spent almost his entire fortune on replacements and equipment. I pointed out to

him at once that a further flight would have a twenty per cent. reduction for experience and a corresponding decrease for duration but he simply shrugged. Surely simple mathematics were taught in his day or, if not, business principles. To expend over forty thousand Heroes in order to gain thirty-six isn't even sound business."

"I suppose the psycho girl will do quite well out of it." The Banker was only half listening.

"Even if they divide profits they will still lose and the risk is considerable. Orthodox, state organised risks would be far more profitable——"

The Banker closed his ears to the voice and stared across the waving grass at the ship. He was remembering, remembering the day his nerve had cracked, when he knew that a few more risks would finish him forever. It was a question of one more risk or finish and inwardly he knew it didn't matter. He decided at last on an ultimate risk and approached the Bankers. They approved the scheme, computers verified the risk and qualified the percentage—one hundred and twenty per cent. If he survived they would make him a Banker and risk free. The state would not call on him again and he need never take another risk if he survived. He'd known, of course, that only one in nineteen million returned from a hundred and twenty per cent. risk but he had been past caring.

He stared again at the vessel, it had been a ship very much like that he remembered. He'd jumped from it when it was seven miles up with only a single hand repeller to break his fall. The concrete impact of air at that speed had broken his back almost before he left the vessel but somehow he had survived. The Risk-repair squad had fished him out of the Pacific more dead than alive with his left hand torn away and half his face missing, nine of his ribs had been punched into his lungs.

He winced again, his back was bad again to-day and his leg ached intolerably. It had ached and throbbed and tortured him for seventy five years and it would never stop as long as he lived. The Banker passed his hand tiredly over his eyes. And how long was that?

He turned suddenly to the Teller, something which had been scratching his mind became suddenly clear and frightening. "I suppose they're coming back?" he said.

"Coming back?" The Teller's voice was almost shocked. "Of course they're coming back."

"But why should they? I understand there are habitable worlds out there, they might prefer one."

"Oh, really, Banker." The Teller's voice became almost chiding. "We know enough about alien worlds to realise they are full of risk, dangerous animals and so on. What intelligent person is going to live on a world where he is called upon to face a risk for *nothing*. Where else but Earth is a man *paid* for a risk?"

"Yes," said the Banker in a voice which somehow lacked conviction. "Where else but Earth——"

PHILIP E. HIGH



NEBULA No. 28 . . .

At the time of writing no definite decision regarding the stories to be published in NEBULA No. 28 has yet been reached. There are, however, a large variety of really outstanding yarns of all lengths by many of our most popular authors, including William F. Temple, E. C. Tubb, Robert Presslie, Philip E. High, Ian Wright, and Robert Tilley, from which the final choice is to be made and, as always, our readers can be sure that the next issue will be well up to our usual high standard.

Order your copy from your newsagent or bookseller today, it will be published in March. In case of difficulty send a cheque or postal order to "NEBULA", 159 Crownpoint Road, Glasgow, S.E., and a year's supply of Britain's top science-fiction magazine will be despatched to you, as published, post free.

Colour Bar

*He was the very last of his kind . . . yet he knew
no love or pity from those with whom he lived*

He made one last attempt.

"You've always taught me," he said desperately, "that we are the inheritors of a great tradition. All the books you gave me to read—and all the science, the philosophy. But we're doing nothing about it. We only keep ticking over, no more."

They remained silent and impassive. He sensed their disapproval; but he had sensed it so often, more and more as he grew older, so that it could not stop him.

"We've gathered plans and records together," he went on, trying to harangue them into some sort of response. "We've stripped the ruins of everything of value—and what use have we made of it?"

Gladstone, in the tone of one who was weary of lecturing a stubborn pupil, said: "We have conserved the knowledge of the human race. Before it decayed and was blown away, we have gathered it in and made it safe."

"Conserved it, yes," he agreed. "But we have not used it."

"We have rebuilt——"

"The very minimum. Just enough to keep ourselves going. We don't develop. There's no ambition."

"Ambition," said Gladstone, "led to the war."

"And to the stars." His enthusiasm ought to have warmed

them, but he knew that it would not. "Men sent out a space ship——"

"Which did not return."

"Will there never be another? Are we giving up? What has gone wrong?"

Gladstone did not reply. It was Stalin who leaned forward and made a sound that might have been a sigh of exasperation or merely of pity. It was Stalin who said:

"I am afraid that you have proved the rightness of our decision, Washington. We have done what we could for you, but you will not listen. Your mind is not up to it. It is emotional and illogical, and after what has happened in the past we cannot afford a lack of logic in what is left of the civilised world. You are too impetuous. There has been one catastrophe that almost shattered this entire planet. There must not be another. We have no room on our councils for someone who is so . . . so different from us."

So different. Even now they were calm and polite to him. They did not sneer as white people in the past had, according to the books, sneered. But their formal politeness was chilling. "Different" they called him; and what they meant was that he was inferior.

He had known for some weeks that there had been a movement to bar him from the meetings and discussions. Now it had come to a head, and he had been told. In spite of their tolerance, their kindness and courtesy to him all these years, they had always doubted him.

He said: "You've always looked down on me. You've always——"

"You see?" said Stalin quietly. "Another emotional outburst. The sense of inferiority—inbred, I fear. We have brought you up rationally, and still you have the characteristic persecution complex."

Washington turned away, towards the door of the bare Council chamber.

Gladstone said: "Don't feel resentful about it. Your life will go on as before. It is merely that we do not think you should attend our meetings."

He refused to look around.

"Treat it sensibly," were the last words he heard from one of the members. "Regard yourself as an experiment that failed. An interesting experiment. It should not disturb you."

He was out in the open now, walking away from the small cluster of neat buildings. Below, at the foot of the gently sloping hills, the powdered ruins of what had once been a city were faintly visible in the winter sunshine. In summer the grass and wild flowers and

weeds would have covered them; each summer the grasses grew stronger, and there was less and less of the city.

Washington moved past the generator house and looked down the slope.

Yes, they had destroyed themselves. Perhaps his own father and mother had been among those who died in the last cataclysm. Thousands, millions, dying in a war that had left little but ruins.

Perhaps the rulers, that handful of administrators in the square, white building behind him, were right. He had tried so often to assure himself that they were right, because life was more comfortable when you could believe and not be forever asking questions and raising doubts. Perhaps this uneventful, regimented existence was the only possible thing now. No more ambition, no more war, no more intolerance.

No more open, aggressive intolerance, that was. . . .

He walked slowly along the ridge to his house on the rim of the woods. Slowly, because he did not want to go indoors; and he had nothing to do in the garden, nothing to do that would lessen the hurt, the quiet but deadly, ancient insult that had been offered to him.

Better to walk off into the unknown—to keep walking, and somehow keep living, moving on from one place to the next eternally.

And finding what?

He knew what he would find. That was the trouble. The same desolation, and the same trim, restrained little communities, proud of their salvage work but fearful of any change. Communities ticking over, all of them identical with this one.

There was no escape.

He went indoors and sat down. From the corner of his eye he caught the reflection of his movement in the mirror, and tried not to think about it. But it drew him. Reluctantly, with all the things that had been said to him and not said to him, he got up and went to the glass.

He stared in at his own face; and it scowled back at him. Different, they had said. An experiment that had failed. He looked at the black, shining face in the mirror, at the curly hair and thick lips. Oh, yes, different, all right: too different.

The last negro on earth. Looked after, treated with condescending affection and self-righteous pleasantness—simply because he was the last, and there would never be any more. Encouraged, even, to join in their councils, but eventually rejected.

Different. Inferior. Alone.

They had found him in a deep shelter on the outskirts of the city, a day after the final raid.

"It was our job," Pitt had told him. "We had to dig out those who were still alive. But only a few on the outskirts were alive, and you were the only one to survive."

He had been a baby then, knowing nothing. Later they told him that there had only been an elderly couple in the shelter with him. There had not been many people left in the city to start with; and in the end there was nobody.

He grew up a solemn, thoughtful child, for everyone about him was thoughtful. The name they gave him was Washington. When he was young he did not question this—it was his name, and that was that—but later, after they had done what they could to educate him, he began to ask questions about it.

"We have chosen for you a great name from history," one of them had explained. He seemed to remember that it had been Cromwell, though in those days Cromwell had only just begun to be known as Cromwell. "The great names must go on. It is our duty to preserve the great traditions."

They themselves had chosen resounding names. It was not until he was older and more inquisitive—far too inquisitive, they made it clear—that he began to realise that they had indulged in this sort of self-glorification. Whatever their names might have been before the holocaust, they had now adopted great names of which he had learned from such history as they saw fit to teach him. Garibaldi, Gladstone, Pitt, Stalin, Cromwell. It was all, he realised, in accord with the humorless earnestness and pomposity of everything they did.

His education was handled methodically, with a great many omissions which he sensed only as time went on. Certain books and newstapes were given to him, but he came to realise that there were many others in the archives which were being deliberately withheld. His education was in every sense of the word a planned one: he was not free to pick and choose, to expand as he saw fit. The whites were deciding what he should learn and what he should believe.

Few of the books and tapes were entertaining. Only a few contained pictures of any sort, and those were mainly technical. He took for granted at first, and later gently began to query, the fact that in all these illustrations the people involved were whites. Never a negro. Always there were whites, driving fast helicars, standing over great banks of machinery, proudly descending from stratojets.

He could not believe that they had shown him only those things which would make him feel inferior. Yet the cumulative effect of those pictures of men like Gladstone, Pitt, Cromwell and the others was not an encouraging one.

In some way, he was sure, they meant well. They treated him gently and carefully because he was the only one left—the last, lonely coloured man in the world. But they did not soothe him: whatever their plan might have been, it did not work.

Sometimes he went right away from the small community on the hill. He would walk for miles, to places where there were not even the shadows of ruins, where perhaps there had never been a human habitation. Then he would strip off his drab, simple clothes and plunge into a river, tasting the disturbing sensual pleasure of the water on his body; or lie in the sun, his eyes closed, feeling incommunicably glad just to be alive. He would run, jump, lounge, be himself . . . denying the austere coldness of the whites who had brought him up.

Of course they knew what he was doing. They always knew. And they were exasperatingly understanding, as usual.

"No harm in your taking that sort of exercise," Pitt assured him. "No harm at all. Perfectly natural."

The word "natural" was a sort of gentle insult. It meant that he was more like an animal, less civilised. It had all been calmly worked out by Gladstone and Pitt and the rest of them—calmly assessed and docketed. Washington was a savage. That was what they meant.

But there were times when he had to indulge himself. He had to escape into an ecstasy of physical activity—to exhaust himself, accepting weariness gladly—a leaping, energetic, lonely figure, a dark and purposeless man in a shattered world.

His revolt against the unimaginatively formal education which they gave him was not a permanent one. He had moods of rebellion, it was true; but often enough those moods were stimulated by the very things he learned—things on which he put a different interpretation from that of his teachers.

His imagination was fired by the little he was allowed to learn of the attempted conquest of space. After his first outburst of enthusiasm they did not let him pursue this line of study. It had not been meant to provoke enthusiasm: it had been introduced only as another example of human ambition overreaching itself.

But to Washington it was more than that. To him it was in

some way a promise: a promise of what might have been. He, like those lost pioneers, had lain awake at night and felt the longing to reach out and ensnare the stars. Gift of the vastness of space—what greater present could a man be offered?

Two negroes had gone on that trip to Mars. A man and a woman of his own kind. Had they, he wondered, been looked down on, treated as lowlier members of the crew? He did not honestly believe so: it was not pride or exuberance that convinced him things had not been like that. Deeply, instinctively, he was sure that those voyagers had all been comrades.

And now where were they? Dead, disintegrated perhaps, out in space.

Better that than this futile life.

A surge of anger would come over him sometimes. He would feel an overpowering desire to go and stir up trouble and resentment in one of the other communities; to go miles away and sow the seeds of jealousy, rivalry, and eventual conflict.

But he was restrained, more than anything, by the thought of the triumph of Gladstone and Pitt and the others. How they would smile and sadly nod, saying that they had known it all along: he was unbalanced, unreliable, primitive.

So he fought down his impulses and listened as submissively as possible while they told him about the last cataclysmic war. He read what he could from the sketchy, spasmodic records and news-tapes. They insisted that he should read all this.

"It will help you to understand. It is good for you to know."

It was almost as though they blamed *him* for the war.

Perhaps if he read these depressing stories for long enough, he would become as unadventurous and cautious as the rest of them. They did, after all, know what they were talking about. Most of them had a clear recollection of the actual war, and the grimness of its aftermath, the struggle to save something—anything—from the ruins.

He read about the savagery of fission bombs, the clash of robot armies in the seething cauldron of Europe, the aerial armadas that spread luxuriant destruction over all the continents of the world . . . and it was unreal. There must be another reality, another truth.

Every now and then, in the things he was allowed to read, he detected an undertone that disturbed him. Somehow, somewhere, there was an intimation of happiness and courage; of laughter.

"Courage," he said at a meeting in the square white building—

"we need to have the courage to strike out again—not to stagnate as we are doing."

They had explained to him for the hundredth time that developments of any sort always led to danger. Better to stay still.

"You are like like. ." He could not think of a way to put it, then the tension in his own chest gave him the right words. "Like people holding your breath from fear," he said. "Holding yourselves in, not daring to breathe, to move. . . ."

They had not understood.

Then, too, he had moments of cankerous suspicion. The whites were not as clever as they would have wished him to believe. He felt, in these moments of rebellion, that perhaps he was the only truly enlightened person left alive. The future depended on him: the future of the human race would amount to nothing if left in the hands of these pale, withdrawn, timorous creatures.

No, they were not his superiors. From remarks that had been made at one time and another he gathered that Gladstone—or whatever his name had originally been—had held the far from skilled job of a visitape processing operative. Pitt, he thought, had looked after a lift in a skyscraper.

Who were they to tell *him* what to believe? They were unadventurous and scared because their minds were small, incapable of seeing things in their widest scope. He, Washington, had more courage and understanding than any of them.

That was why they tried to control his education. They had not, at first, the strength to deny him access to their meetings and discussions. It was only when they began to fear him, as a menace to their peace of mind, that they expelled him.

He felt nothing but contempt for them. For the things they had taught him, and the things they had carefully not taught him.

Two days after his expulsion, he went off for a day in the loneliness of the countryside—anything to get away from their grave, stupid faces and their carefully polite voices.

That was the day on which the space ship arrived.

Out there in the winter sunshine, he had gone out of sight of anything human. He leaned against a tree, feeling the bark brittle under his hands, and was filled with yearnings which he could not explain and could not cope with. He felt more like an animal than ever—the primitive, impulsive, restless animal they accused him of being.

He was shut out. *They* had their homes and their enclosed, private lives into which he was not admitted. He was separate. He

was looked after, fed, clothed, preserved. . . . Yes, that was it: he was preserved. He was cared for like some rare specimen—the only one in captivity. He could not truly share the lives and thoughts of the others; could only imagine.

Staring into the sky, conscious of the wind in his face and the springiness of the ground beneath his feet, he was also conscious of an anguish for which there was no name.

Spring would come soon. In spring the trees would be green, the flowers would drive up defiantly out of the ground. Spring would be disturbing, as it always was.

And then, splitting the silence and trailing fire across the limpid sky, the ship was there.

This, he thought, was madness. His daydreams had become mirages, and if the whites knew that he was seeing this ship they would nod sagely and say, "It was as we suspected. So impressionable."

Yet the ship was solid enough. It filled the sky with its noise, and when it came down a quarter of a mile away the trees bent before the hot, acrid wind that it stirred up.

Washington began to run towards it.

At any moment it might disappear; might cease to be. Then he would know it had been only a dream. It was as though he hoped, by running desperately towards it, to hold on to it and make it real.

The ship did not go away. It waited, and as he drew closer he saw an opening appearing in its side.

A ladder unfolded and slid down to the ground.

Washington stopped. His heart was pounding. Would the travellers from the ship be human or . . . or something else?

The first figure appeared in the opening. And it was human.

More than that. He stared incredulously. This, more than anything, persuaded him that it must be a dream.

The man coming down the ladder was a negro.

Then came another. And then someone who was, Washington knew instinctively, the answer to his incoherent yearnings—the answer to those questions he had asked the whites and which they had refused to answer or had managed to evade.

"Much better for you not to know," they had said. "It would only make you unhappy."

Now he stared, and knew that unhappiness was in deprivation only, not in understanding. He stared at the third negro, the creature with the beautiful shape and the sinuous movements that were quite unlike the movements of any of the whites he had ever seen.

One of the men turned and called up into the ship. After a moment a white appeared, laden with equipment, and came stiffly down the ladder. His movements were clumsy and ungraceful compared with the supple ease of the negroes.

Washington moved out of the undergrowth and went resolutely towards the ship.

"Look!"

They were pointing, and suddenly they were all shaking his hand and laughing.

"It's good to be back," said one, and they all laughed uproariously at this. Washington was on the verge of crying with happiness, and looking at the beautiful one he saw that there were also tears in her eyes.

Now they were firing questions at him, and he was answering as best he could. They shook their heads over his tale of the destruction of civilisation. None of them remembered Earth as it had been, though two of the men had been brought up as historians, all the lore of the race having been entrusted to them, so that they had formed a clear picture of what Earth would be like when they got back to it.

They shook their heads even more as Washington told them—indirectly, through his recounting of recent history—of the imperious way he had been treated by the whites.

"We had heard of that sort of thing in the old days. On Mars it has not been like that. We all worked together. And we intermarried. We soon discovered that this was essential—for the whites could not stand up to the climatic conditions and diseases there as we could. We have still not found out precisely why. But without a mingling of the blood, the race might possibly have died out.

They had automatically sat down in a group under the shadow of the space ship. Now, looking up, Washington saw the white coming down the ladder again with another load of equipment.

He said in a low voice: "And those that remain are inferior? They . . . work for you?"

Puzzled, the man opposite said: "We work together. We all do our share. We have no servants, no superiors and no inferiors."

"But . . ."

He did not like to nod towards the busy white, did not like to point out that this stiff-seeming man was doing all the unloading while the rest sat and talked.

Then the beautiful one stood up abruptly.

"People are coming."

They all got up. Washington peered out across the uneven countryside, and saw the car bumping towards them.

"From the town," he said.

He felt very proud. He was waiting for the moment when the whites came forward and realised that the returned voyagers were negroes or people of mixed blood—his own people.

The car jolted to a stop. Gladstone and Pitt got out and approached the space ship.

The man beside Washington said: "They've been kept in good condition. Better than ours. But where are the whites you were talking about?"

Washington said: "I don't understand." He watched the two familiar, pompous figures come walking primly towards them. "These are the whites. The one on the left is Gladstone. The other is Pitt."

"You mean these are the whites who brought you up—salvaged the books and records, told you what to read and what not to read—kept human civilisation alive?"

"Ticking over," said Washington. "No more than that—just ticking over."

Now the other was laughing. There was incredulity and almost a touch of hysteria in his laughter.

"You are right," he spluttered. "Ticking over that is the right way to put it. And these are the only whites you know—all the others are the same?"

"There are other communities like ours," said Washington, dazed by the laughter. "They are all the same. All whites, like these."

The man put a hand on his shoulder. Gladstone and Pitt stopped in front of them. And the negro said:

"These are not whites, whatever they may have told you. These are robots."

JONATHAN BURKE



Escape from Plenty

*War, plague and famine had been banned from Earth,
leaving only hopelessness and bitter frustration*

In the spring sunlight of a met-controlled afternoon Jago Farr nervously smoked a cigarette and surveyed the result of ten years' labour on the part of himself and his lawless group of Spacials.

Birds had appeared once more in the new woodlands, and newspapers headlined the story of a pair of sparrows nesting above a Westminster block of flats.

But Jago Farr despised sparrows, woodlands, and all other objects of Terrestrial sentimentality. Right now his interest was absorbed in the great object which lay before him, screened by branches of trees, and painted in a camouflaging snake-pattern of greens and browns. A spaceship.

He believed it would be the first ship to leave the earth for a decade, and that he and Ming would be the first humans to fly beyond the atmosphere since the disbanding of Moon Colony.

He flung his cigarette butt to the ground and carefully crushed it with his shoe. Then he crossed the paddock and entered the spaceship through the controlroom hatch.

Zero hour for the start of the flight was a month ahead, and though there was plenty to do in the way of stocking and testing the ship, he felt himself burning up with impatience. The stars tugged at him with invisible strings, the instruments in the controlroom

screamed aloud for him to operate them, but he tore himself away and squeezed his broad shoulders through the hatch to the observation-dome.

Here, with farmland stretching to the skyline in all points of the gyro, his impatience revved his nerves to explosion-point. He would swop a lifetime of gazing on such staleness for just one week of the dazzling fiords of Mars under her twin moons.

Mars-pioneers told of perfumed blue snow; of climbing plants as strong as girders, spanning mile-high canyons of sparkling quartz; of tent-sized flowers which sprayed myrrh and honey into the air; and of myriads upon myriads of *giant* winged-creatures with gossamer or petal wings. . . .

The earth! Bah! It was nothing but an oversized cabbage-patch.

Jago Farr would prefer to see the earth the way it was when trees were so scarce that school-kids were flown hundreds of miles to see one for their natural-history lesson.

In the last four decades of the 20th century technology had increased and intensified to the extent that natural life was almost squeezed from existence. One by one the wild species became virtually extinct. The rabbit, the fox, the starling, the rook. Fields and forests gave ground to airstrips, factories, powerstations, and skyscrapers. Land became so precious that every square inch must be utilised. Trees vanished. Hedgerows became a forgotten dream.

The World Union of Nationalities formed in 1980 brought the peoples of the world under one Flag, one Law, and one currency. Wars ended. But mankind's efforts to exploit the planets caused more waste of life and goods than the two world wars together.

"We work one day for ourselves and six for the moon!" the people protested. And a popular movement against space travel sprang into prominence. The world split into two political factions—the Spacials and the Terrestrials.

With phenomenal speed the Terrestrial movement gained adherents, and in 2000 the Terrestrial People's Government took power.

Explorers were recalled from Mars and Venus.

Moon Colony was disbanded.

Rockets were broken up and their metals forged into ploughshares and spades.

Space-travel was outlawed.

Enthusiastic Terrestrials, drunk with reaction against an artificial way of life, swore to turn the surface of the globe into one gigantic garden where men worked with their hands, where no one was mangled by hurtling metal, burnt by rocket-blast like an ant in a volcano, or cast away for ever in the emptiness between the stars.

Although the government retained technology for medicine and communications and employed a fleet of air-cruisers for military and political control, power-driven machinery disappeared from private life.

Private ownership of power-driven mobile machinery became a capital offence.

The Terrestrial People's Government was the sole official power on earth. And the Spacials, ironically, became an underground organisation.

"Bah! Get away from it all!" Jago Farr snarled at the green landscape. Lately the observation-dome was only bearable at night, when the speck of cosmic dust which the Terrestrials were content to live on faded into the void, and the sky was opened up, and galaxy beyond galaxy of gleaming stars were revealed to the spaceship's powerful eyes.

Jago felt more at ease down in the controlroom. The shining levers, the levels and gauges were set out with a precision which had behind it half a century of theory and practice, and which possessed, in the Spacial's eyes, more beauty than any masterpiece of art.

While he stood admiring his instruments and picturing himself a month hence, standing in that same position, but with the ship no longer earthbound, his wife opened the hatch below him and joined him in the controlroom. She dusted her gloves together, and Jago coiled an affectionate arm round her slim waist.

"What is it, lovely?"

Jago Farr knew that Ming was the best thing that had happened to him since he cut his teeth on his first telescope. On the one-way trip to Mars the ship carried two people. What better could be arranged than that the two should be man and woman, and that the woman should be the best engineer in the movement, a nurse, *and* one of the loveliest creatures this side of the Andromeda Nebula?

"A couple of men to see you about the dehydrated food," she said.

"But you're the dietician," Jago said, frowning. He was suspicious of everyone now. The spaceship was the eagle that would soar to the stars, but it was still grounded, and everywhere the ants

were toiling, pulling off wings, decreeing that all creatures should be wingless and lame.

Ming tweaked his ear.

"They want you," she said. "Besides, I've made coffee, so it won't hurt you to come down and see them."

He stopped with one foot on the ladder. "Sure they're all right?" When she nodded a blonde lock of hair pendulummed across her cheek. "They gave the passwords all O.K."

Down in the farmhouse he found the two men drinking coffee. They got up when he and Ming came in, and the taller one walked over to Jago. He looked a typical farmer, long-limbed and brown.

"Got something out there I want to show you," he said. "H.Q. sent me on a rush-order, and I'd like you to come and see it right away. Got it out there on a cart."

Ming poured coffee into two more cups and added cream from her own dairy.

The tall stranger twisted his hat-rim with strong, nervous hands. "Won't take long," he said. "I'll explain as we go."

"O.K. Let's go!" Jago said abruptly. He blew the ghost of a kiss in Ming's direction and followed the tall man, who was already ducking his head through the old-fashioned doorway.

They took the path across the paddock and climbed the stile to the drive and then walked silently to the main road. Jago saw a cart at the roadside a hundred yards down. It leaned towards the hedge and the shire horse in its shafts stretched a long, maned neck to graze the ditchwatered grass at the roadside.

A man lounging on the backboard of the cart straightened his back as the pair approached. He waved an arm and suddenly three others who had been hidden in the hedge came out and rushed at Jago. He saw the solar-system snatched away from him by their earth-grubbing paws. Their grip held as tight as the chain of gravity and ignorance that had tied man on earth for a million lifetimes.

"We're from the P.I.F., Mr. Farr," the tall man snapped. "And we're arresting you for the illegal possession of power-driven machinery."

The Terrestrial People's Government had abolished the older judicial procedures. Twisted corridors cobwebbed and dungeoned with lawyers' snares and idiocies had been crushed under the liberating violence of bulldozing human sanity. People's Committees of thirteen sat and decided on the spot whether an accused person was guilty or not, and what punishment, if any, should be given. And in most things a happy lenience ruled.

But for the crime of owning a power-driven mobile machine the only punishment was death. Death that came silently from the shadows.

Jago Farr's trial was startlingly brief.

He was escorted into a room walled by windows, and stood on a platform between two guards. Clubin Marvic, as Public Prosecutor, read out the charge.

And sitting round in a crescent of chairs the Committee of thirteen listened stonily, gazing at the accused with loveless eyes that had seen the earth a cinder-heap foul with machine-mangled flesh.

"You are accused of being in the possession, knowingly and willingly, of a unit of mobile power-driven machinery, namely, a workable vessel designed to travel through space, which is contrary to Order Number One in the Legal Code of the Terrestrial People's Government."

The tall man who had arrested him, and a man he had never seen before, bore witness that a spaceship, ready for flight, had stood, camouflaged with paint and foliage, in a field belonging to the farm of which Jago Farr was the manager.

They gave their evidence competently and smugly. And the Spacial, watching from the platform, felt that Stupidity was putting Enterprise on trial.

"Do you," asked Clubin Marvic, "deny this accusation?"

Jago Farr spread his hands and sought vainly for a line, the least wrinkle, of sympathy on the stone faces of the Committee. "How can I deny it?" His nerves felt taut as the fine strings that tugged his heart to the stars. He wanted a smoke, a drink to moisten his tongue, a look of sympathy, a word about his wife. He wanted to say plenty. To justify his activities in helping to build the ship. To proclaim his faith in space-travel. But not a drop of moisture or sympathy came to loosen his tongue, and his guards marched him away to the vast Waiting room in the Tower of Justice.

On a wall spread a picture of the Terrestrial People's Flag. It had blue and green horizontal halves with a stalk of gold wheat down the centre. Round it clustered the smaller flags of the old national groupings: the Union Jack, the Tricolour, the Star and Crescent, the Stars and Stripes, the Hammer-and-Sickle, the Rising Sun

Opposite, large windows opened to a balcony from which sloped the pole which would soon bear the flag announcing to the world the Committee's verdict.

If it was "Not Guilty" the flag would be green. If it was "Guilty" the flag would be black.

The Waiting room doors hinged open and Clubin Marvic briskly entered. After a word to one of the guards he took a flat case from his pocket, lifted a cigarette from it and put it in his mouth. His hands were long and manicured and diamonds gleamed on the ring-finger of his left hand. With a flourish he snapped his case shut, and then he opened it again, took out a second cigarette, and without a word put it between Jago's lips and lit it for him with an old-fashioned match.

"The verdict will be announced in a few minutes," he said when his own cigarette was lit to his satisfaction. He strode over to the window with the cigarette in his mouth and stood with his hands behind him, looking out over the balcony at the vista of houses cushioned among feathery trees.

Jago Farr pulled on the cigarette and wondered if it were poisoned. That, he reflected, would be just the method of execution that these lily-livered Terrestrials would use. The Death Penalty had been abolished for all offences except the one with which he was charged, and the means of execution was a secret.

Did he feel drowsy now, or was it imagination? He took the cigarette from his mouth and looked at its smouldering tip. Then he looked round at Clubin Marvic who stood near the window and swung round to meet his gaze.

Before either of them could make a remark Jago saw through a blue haze of cigarette smoke that the door was opening. A messenger entered.

He carried a flag. It was green.

Clubin Marvic, beaming with smiles, came over and slapped Jago on the shoulder, congratulating him. They watched the green flag being hoisted on the balcony. Then Marvic said: "All right, Jago Farr. You are a free man. Your wife is outside waiting for you."

Doors opened. Jago took the escalator to the foot of the building, impatiently striding ahead of the descending stairs.

Ming, lovely Ming was waiting. He embraced her, and then, taking her hand, he hurried to the front of the building and pointed up at the green flag that symbolised his freedom.

"The ship?" he asked anxiously. "Have they destroyed it?"

Ming shook her lovely head and the door of the sky opened to the shining pathway to the stars. "No one's been near it."

He tugged her hand. "Come on then! What are we waiting for?"

Jago Farr stood in the spaceship's controlroom in the same

position as he had stood on the day of his arrest a month earlier. And now, as then, he admired the concise layout of the instruments—a symphony in plastic and chrome. But on this occasion the instruments were alive. The whole ship was alive, soaring towards a new world. The earth had been pushed away by the flaming jets, and the ship was alone now in space—free and lonely.

Jago felt dizzy. Blue haze filled the controlroom. His head throbbed. He felt drunk with space and utter, utter freedom. The eagle was airborne at last, and far below it, on their turning mound of dung, the soulless ants toiled at their drab and futile husbandry.

The haze thickened. Jago had the sensation that his feet and legs were swollen to mammoth proportions, that his body had stretched infinitely taller, and that his head was the size of an apple, on the end of a long, tapering neck.

Leaving Ming at the controls, he climbed into the observation dome and saw the heavenly bodies gleaming with an almost insane intensity. And yet, although the stars and planets were incredibly clear, the sky was not dark, but bright, glaring bright, so that the observation-dome sparkled like a colossal diamond.

Jago giggled idiotically, for his body seemed squat now: it was as though he had moved from one distorting mirror to another. Light gleamed down on the dome in waves, and as the ship sped through space the waves of light pounded faster and faster. Jago felt them bursting over his head. He felt burst waves of light spraying over his shoulders like water under a shower.

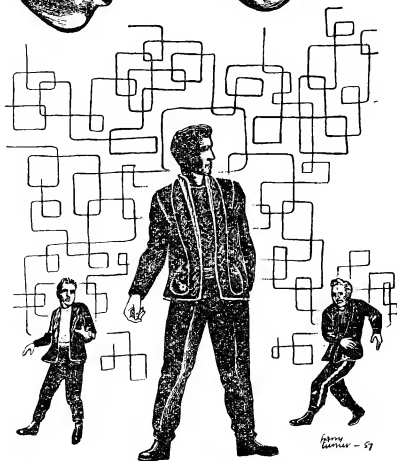
Light became palpable. Became warm snow. Became crazy happiness and all the things he had ever wanted. It rose up the sides of the dome until it engulfed him. He felt himself swooning, laughing, drowning, enveloped in an expanding mass of cosmic light.

Clubin Marvic looked down on Jago Farr's body as it lay on the floor of the Waiting room in the Tower of Justice. With fastidious movements he took the poisoned cigarette from the still fingers and felt for any pulse in the wrist.

No tremor quickened the vein.

Clubin Marvic straightened himself and placed the remains of the cigarette into the little gold box and shut the lid.

And then the messenger came in and hoisted a black flag from the pole that leaned over the balcony.



from
Turner - 59



*With vast financial empires at their command and human beings
as their pawns, their relaxation was a cosmic game of chess*

Illustrated by Harry Turner

A chip of fire pitched from the sky. What had seconds before skimmed across the heavens like a glittering arrow of the gods now shrieked in shocking mechanical agony as fires torn from the sun devoured it on its long fall to the waiting surface.

The bellowing corpuscle of fire arched into the Indian Ocean and was swallowed amidst noise and flame and superheated steam. Nearly a thousand miles to the east, the brain of the ship crashed heavily into the northern tip of Sumatra.

Jonathan Pengkalan was nearest to the crash; his flier landed him five minutes after he had taken off from his village bungalow by the Malacca Strait. He walked carefully towards the silver shell, noticing the absence of scars and gashes and unfamiliar enough with this type to know if the slight off-circular shape was natural or

not. A blanket field which had prevented damage to the trees was switched off as he approached.

A voice, perfectly modulated, mechanical, said: "I am dying. My body failed me. I regret it. Will you please inform Mister Peter Wharton of Coralgrove, Med."

Pengkalan said: "Certainly." He was a phlegmatic man, whose emotions ran deeply; there was nothing here to stir him. A crack-up. Tragic; but, at times, unavoidable. He touched the warm metal. "Can I do——"

"Nothing. Except this. Most of my eyes were ripped off. Would you look into the rear compartment, please?"

Hoisting himself up the awkwardly sloping hull, Pengkalan pressed the red emergency button fitted for human use. The metal canopy exploded outwards. He looked down.

The emotionless, mechanical voice said: "Is he——?"

"Dead."

"I have failed Mister Wharton. I was expensive, too. He will not be pleased with my builders. Please let him know at once. It is very important."

Pengkalan still stared into the compartment with its shattered padding. He knew no emotion could be expressed in the words he heard; perhaps it was his own sudden tightness of chest and stupid blurring of vision that made him hear what could not be?

He reached down and then straightened with the cot in his hands. Cautiously, he regained the ground. No sound came from the ship.

"If you can hear me, I will do as you request. At once. And I will take care of——"

The mechanical voice was a mere whisper. "Thank you."

Pengkalan lifted his flier very gently and set it down as gently. It was completely unnecessary. But it was a gesture. His wife ran down the few steps of the bungalow.

"Jon! Are they all right?"

"It was a roboship. Personal." He lifted the cot blanket and watched his wife stare down at the baby. Her large slanting eyes softened and her mouth made a little moue.

"He's dead, Luana. Put him in the frig till I find out what they want done." He walked towards the bungalow.

"Poor little mite." Luana cradled the cot, her eyes wet.

Pengkalan selected the microfilm directory for the Mediterranean. There were nine and a half million entries under "W" and five thousand listed Whartons. He set the controls for Peter Wharton

of Coralgrove and the number showed at once on the screen. A single button-pressure transcribed the information and his request to the nearest international exchange, at Singapore. A few seconds later Singapore had Naples on the air and Naples transcribed the radio waves into ultrasonics which immediately found a blank circuit on the board at Coralgrove, a mile or so seaward of Ischia.

Luana walked in, her vivacious face sad. Pengkalan nodded at the screen. "This Wharton must be extremely wealthy. Call's coming up now."

"He owned a roboship, so I suppose he must have been."

"Plenty of people own those. Only a few can afford to live in the Bay of Naples. Ah, here we are."

The screen lit up.

Eighty-six degrees of longitude to the west and forty-one north of the equator, in an artificial seamount rising to forty fathoms, a group of men and women sat comfortably about a spacious lounge, their backs to the transparent wall. Beyond that wall the life of the undersea circulated unceasingly, a fascinating, teeming life that even after centuries of familiarity seemed ever fresh.

These six men and three women, all cultured, wealthy, at the pinnacle of worldly fame and success, had more interesting fish to fry than any that swam beyond the walls.

Belzoni was speaking, his mobile face and dark hair making him look a young man—as he was, even though his chronological age was four hundred and thirty. "What's holding you up, Peter? The ship leaves for Takkarat in less than six hours."

"Yes, Peter," put in Crompton, red haired, beefy-faced with puddingly slits for eyes. "What's the gag?"

Renoir laughed a little maliciously and flicked ash negligently. "Oh, Peter's trying to put one over on us, as usual." They all laughed.

Peter Wharton's laugh was forced. He was the eldest of this gathering, seven hundred and ten good years; but it looked now as though he would be the one who failed to enter the Great Game. And, ironically enough, he had been the instigator. He smiled easily, playing down the laughter.

"Oh, I expect Sammy to be here any minute. You see, I had to go to Australia for the baby."

A chorus of good-humoured banter greeted this, with information that their babies had come from quite close at hand. Only Beddlestone nodded, his thin features and whipcord body perpetually tensed and dynamic with his inner conflicts.

"Got mine from a couple who didn't come out of a deep sub dive off the Marianas. The poor kid would have been sent to the Galactic Training Bureau if I hadn't stepped in with my—offer."

Lucille Wu, Wu Ssu-hsun's wife, burst out on this. "Galactic Training Bureau my foot! That sort of thing gives people the wrong idea. Earth's penetrated about a tenth of the Galaxy so far. A tenth! Who knows what—or who—might be sculling around in the rest?"

Wu Ssu-hsun smiled. "You're quite right, Lucille, my dear. But I wouldn't take it so much to heart."

"She's got a point there," Beddleston said. "If we bump into another culture—like we did with the folk spreading out of Gath—with our war potential like it is——"

"War!" Renoir said casually. "You can't fight wars in space any more, you know that, Beddleston."

"Earth does, or thinks she does. But will the enemy?"

"If they've reached the same level of civilisation we have," Wharton said slowly, "then they'll think the same way."

"I don't like this talk of wars!" Barbara Wharton shivered. "And, Peter, where is Sammy and the baby?"

"It certainly is getting late, my dear." Wharton glanced at his watch and in that moment the screen flushed and the robo-operator said: A call for Mister Peter Wharton from Sumatra. Shall I put it through?"

"Sumatra?" Wharton looked puzzled. "Who's out there now?"

"I heard Bill Potzi was poking around in Java," Wu said doubtfully. "His business wasn't doing so well——"

Renoir laughed. "Don't tell me! I took half a million soldars off him a month ago."

"We can't bother with odd calls at this time," Wharton said firmly. "We must get the six babies away to Takkarat and tie up all the loose ends." He said to the screen: "Tell the caller——"

"Wait!" Barbara's full lips pulled down. "It may be—something—Peter, perhaps you'd better——"

"Eh? Oh, all right, my dear. Put it through."

A smooth brown Oriental face came on to the screen.

"Mister Peter Wharton?"

Wharton flicked the close-up on his chair. "Yes?"

"I am Jonathan Pengkalan. I'm afraid I have bad news for you. Your roboship failed and crashed here. It asked me to let you know at once——"

Wharton's face strained and he stood up quickly. "Yes, I understand. What about——?"

"The baby was killed. I am very sorry."

"Did Sammy send any message?"

"Sammy?"

"The roboship. Well?"

"It just said it was expensive and you would be annoyed with its builders."

"Oh, damn!" Wharton looked up quickly, and went on: "Sorry, Pengkalan. Thank you for letting me know. Very good of you."

"Do you wish the body to be sent to you?" Pengkalan was trying to be gentle.

"Oh, no. Don't bother. Just bury it quietly. I'll send you enough to cover expenses." He smiled tiredly. "Oh, and what's left of Sammy. He was a good roboship. Don't leave him to rot, there's a good chap."

Pengkalan raised a hand. "I understand. It was not your child?"

Wharton glanced at Barbara. "No, thank God." The remark seemed to have started a train of thought. He said goodbye, thanked Pengkalan again, and switched off. He turned to face the others. They all looked at him expectantly. Renoir's wife, Shoshana, fidgeted until he quietened her with a look. Everyone seemed to feel the tension mounting.

"You heard, of course. My entry's been forcibly washed out. There's no time now to find another orphan before the ship sails for Takkarat." Wharton's hands were clenched into fists but his expression betrayed nothing of the savagery of his thoughts. All his careful planning brought to nothing just because a damned insensate machine had failed!

"You're not withdrawing, Peter!" Lucille Wu broke in in her impetuous fashion.

"Simmer down, dear," said Wu Ssu-hsun. "What else can he do? No baby, no protagonist in the Great Game."

"Oh, bad luck, Peter," Belzoni said sincerely.

Peter Wharton stood there before them all, cursing silently and yet, with that little imp of devilry dancing in him, quite able to see the funny side of it all. When you had reached a certain age, when your struggles—or most of them—were behind you, well, then you began to look more keenly for amusement. So he'd invented the Great Game.



These other five men, if not the richest five in Man's portion of the Galaxy, must figure in anyone's list of the top twelve. Wharton himself wasn't sure that he was the richest; he felt certain though that he one day would be. Not that it bothered him. He'd long passed the point where money mattered and had but recently passed the time where power from money mattered. The Great Game might be an ingenious way to kill time, to rouse a fresh interest in life and be a means of making money on a bet to these five; to him it was a new departure in a way of life.

And now he, the inventor of the game, was stymied through lack of a counter. The dice were rattling, ready to be thrown, the money was on the table, the board waiting—and his counter had been casually washed off. Most annoying.

But the real tragedy lay in that his own computations told him that six children must fare forth if his predictions were to come true. Only five, and the imbalance would negate any hope that he could be successful with any one of the group.

He said carefully, so as not to alarm Barbara: "Only five and a half hours to sailing time. And it'll take four of those for the operation on the child's brain. That leaves me an hour and a half to find a child——"

"But not any child, Peter," Beddleston said. "You must have

the right heredity. Parents of that type are not too few; but by definition they want and are able to take care of their children. Any old orphan won't do."

"You don't have to tell me," grumbled Crompton. "Mine took the devil finding. Great grandson of that fellow who floated the second Syrian loan."

"I'm still not convinced," Renoir said, smiling widely. "Environment. That's the great character former. Although"—he shrugged in Gallic gracefulness—"I too was careful about my choice. Father was a very big financial wheel indeed. But you, Peter. You'll want to withdraw your stakes?"

"No." Wharton's voice was harsh. "My ten million remain with the Galactic Bank. I shall find a child." He was looking covertly at Barbara and thinking of young Peter asleep in the lower nursery. Just nine months old; the right age. Old enough to fare for himself away from maternal hands and yet young enough to recall in later life only his foster parents. He tried not to think of what Barbara would say; after all, there had been and would be other children.

"But where, Peter?" Shoshana Renoir was asking.

The others looked their confirmation of the query.

Peter Wharton took a deep breath. This would not be pleasant. He attempted to think in terms of Galactic need and his own new-found sense of duty to the human race; but those sort of imponderables were very fragile in face of his own ache for his son and his wife.

Long before he had formulated the exact words he wanted to use Barbara was on her feet, staring at him, one hand pressed to her breast. Wharton accepted the deep disturbance such an exhibition of emotion from his wife meant. He knew her too well to flinch from what he must do; but he knew that from this moment a deep hatred of his own motives must grow in himself, whatever she might say, cankering away at his brain. Her words were even, low-pitched, contained.

"You want to use Peter as your pawn in the Great Game. I can only ask you, is it worth it?"

The others burst in, their close familiarity making any feeling of embarrassment in this moment of close family tension quite unperceived and undreamed of.

"Not young Peter!"

"You couldn't do it, Peter!"

carrying it to extremes

understand your motives," Beddleston finished heavily. "But, after all, it's only a game."

Wharton shut his ears to them. His gaze was locked with Barbara's. He felt a weakness assail him; was it worth it? Send out six children into the Galaxy as counters in a gigantic financial game; it sounded fine. And then one of those children, suddenly, apocalyptically, was your own; was it worth it? Wharton thought, quite deliberately, of the state of Earth's civilisation out among the starfields, of the future of the race, and decided that it was worth it.

"Barbara, one day you'll understand," was all that he allowed himself to say. And then he gave the necessary orders.

Five hours later, with young Peter Wharton, nine months old and crying still from the operation on his skull, aboard with the other five children and their nurses, the ship blasted off for Takkarat.

The Great Game had begun.

Peter Wisdom marched crisply from the court martial chamber and the only indication that his life had been ruined were the red spots that burned angrily in his cheeks. His escort wheeled him smartly right-handed down the sloping tunnel through the labyrinth of Space Navy accommodations to his own cubby and then, solicitously, stood outside his door whilst he packed. No time was going to be wasted ejecting unwanted bits of humanity from the precision Space Navy machine.

He hauled out his grip and tossed clothing in, automatically spreading his uniforms out neatly over their magnetic formers. Then his fingers clenched on the material. What was he bothering about uniforms for? He was finished with the military way of life for ever. Disgustedly, he ripped out the best blacks, the undress lavender, all the cords and insignia, and deliberately rumpled them into an untidy heap in the centre of the floor.

Let the commandant find that!

Wisdom had the thin, nervously dynamic face of a person always on the run, from himself, from circumstances, towards a vague, ill-defined future that he knew, without knowing why, held days of great glory and graceful living.

As he wheeled out with the escort, joined now by Toby Rogers with his escort, and they hummed along the monorail towards City Centre, Wisdom realised sourly that he had to face the fact that glory and gracious living for him had receded to impossible distances. Rogers, freckle-faced and with a barrel body, was as

disinclined for conversation as Wisdom. They sat together, hunched down, morose and silent.

The guard commander, however, felt differently.

"You boys are civilians now, and, brother, do I feel sorry for you." He winked. "If you wanted to hit the fleshpots you shoulda contacted the right people, instead of busting in on your own. You was mugs—you shoulda known you'd be caught." He sighed. "Just kids, that's all you fancy Space Cadets are, just mothers' darlings."

Wisdom didn't even bother to tell him that they were both orphans. But when the guard commander expatiated on their folly of sneaking off for a night's enjoyment of the high-life of the city, he broke in heatedly.

"It wasn't us! We didn't go into San Juan del Norte, we've only been in once, and that was when we arrived on the planet to attend Navy School. Someone else did, and we——"

"You were unlucky, kid. If it's true."

Rogers said flatly: "It's true. And I don't know about being unlucky. They didn't waste any time picking us up."

The guard commander thought. Then he said: "You mean they dropped on you? You were framed? Naw—couldn't be."

"Framed," Wisdom said bitterly. "Yes, that's it. Framed." He did not add, "Like I have been ever since I can remember," but he could have done. It was true. His early life was blurry in details—moving from planet to planet of Man's section of the Galaxy, poverty, people who couldn't be bothered with him. Then running away, odd jobs, and a chance to sign up in the Space Navy. At the Navy School at San Juan del Norte, where he had met Toby Rogers and struck up a friendship, he had thought life was beginning. Now he was back on his uppers again, broke, stranded and with no prospects.

He was just seventeen.

Three years later he could look back on that brief excursion into Space Navy life and smile, a little gently, at his youthful eagerness. It had left him with a permanent attitude of sourness to all military ways. But military life meant less than nothing, now that he and Rogers were quarter-owners of a deep-space tramp that could make their fortunes—if they were lucky—in another two years of star-hopping. He'd grown in those three years since Navy School; but his face was as thin and intense as ever.

Staring into the screen as they orbited Bogota waiting for tugs, he was aware of Rogers coming smilingly into the control cabin. Following him was Leroux, half-owner, and a man that Wisdom

could not stomach. Nor, for that matter, could he take Leroux's pal, Belgrano, owner of the remaining quarter of the good ship *Hondureno*.

Toby Rogers seemed to get on with them all right, though, and Wisdom couldn't complain; they'd been very helpful in putting Rogers and himself on their feet. Even now, he didn't really comprehend the full ethics of the thing; it had been an accomplished fact. Toby Rogers had met Leroux; ten days later he had money, part of which he insisted on pressing upon Wisdom, and a week later they'd all joined forces and bought the *Hondureno*.

And now, with two successful voyages under their belts, they were coming in with native jewellery, tape-recordings, wines and trinkets from Nasilinna to sell on Bogota. A thoughtful purchase of a return cargo, and they should wind up a clear twenty thousand soldars to the good.

Toby Rogers echoed his thoughts. "We should make a nice killing here, Pete. Leroux tells me we're the first ship in from Nasilinna in three or four years. Our stuff will go over in a big way."

"That's good news, Toby," Wisdom said heavily. "Then I can finish repayments on my loan. We'll be quits." He smiled. "Although if you hadn't staked me——"

"Forget it, old man." Rogers tried to conceal his discomfort. "Nothing at all. Any time."

Wisdom did not press the subject. Rogers had no desire to discuss the origins of the money—he had sworn on his honour that it had no illegal strings—"just a gift" he'd say, laughing. "Just a gift."

At this point Leroux, his swarthy face shining with cabin-sweat and his thick lips smiling, indicated the screens.

"Tugs are here. You taking her in, Pete boy?"

"It's my watch."

"Sure, Pete boy, sure. Mind if I hang around?"

Wisdom made no direct answer and Rogers covered the tension by yodelling happily, mouthing a parody of a popular song and fitting words suitable to the occasion into the music pattern. The tugs clamped on efficiently and eased them into their berth. Bogota, newly luxuriating in its charter as a fully-fledged member of the Terran Confederation, was still very much a frontier planet and slick scientific gadgetry rubbed oily shoulders with rough and tumble frontier ways.

Routine off-loading, customs, quarantine, health and psycho inspections followed and then Wisdom and Rogers were free to take the monorail into Bogota City. Leroux and Belgrano had gone in search of their "contacts" and both Wisdom and Rogers knew that the result would be high selling prices and a nice percentage on goods purchased. "Hitching our wagon to their star was a clever move, Pete," Rogers said.

"Sure," Wisdom answered sourly. "Sure. I only wish the star smelled a little better."

"Oh, I don't know. My philosophy is that whenever money has the honour to come into my possession it automatically becomes clean; its past associations and its dirt wash off."

"Slick and easy. It doesn't wash quite so smoothly for me, though, Toby."

"I draw a line, though," Rogers said softly. "Some deals I just don't condone. You don't have to worry over me."

"I know that, old son. It's just my ethics in this Galactic Age." The monorail car stopped. "Here's a hotel, come on. I need a drink and a shower."

They stepped from the platform into the fifth floor of the hotel, booked a pair of rooms and then showered and changed and descended to the bar. Over tall nuclear fizzes they chatted desultorily, conscious that they were not acting as working partners in a business enterprise might be thought to act. They were both uneasy, restless, jumpy.

"Wonder what they're doing now?" said Rogers.

Wisdom said savagely: "Got some sucker half drunk and signing his life's earnings away." He drank thirstily. "Look, Toby, couldn't we cut out? Let them buy out our quarter?"

"You know, Pete, I'd thought of that. Well, why haven't they? They don't need our money now. They can pilot a ship, or hire an astrologer and pilot more cheaply than us. So—why should they work hard—as they do—and then tamely hand us our cut of the profits? You tell me."

"Looked at like that, it doesn't make sense."

"Those babies are tough. They don't hand out twenty-five per cent for love and kisses." Rogers leaned forward. "Maybe they have a big deal lined up, a crooked fix. And we are slated to be the fall guys."

"You mean, they pull off an illegal stunt and then send us to prison as their stooges? That's an idea."

"Too damned good an idea."

Wisdom dialled for two new nuclear fizzes and thought about the implications of that. It made logical and unpleasant thinking. The roboserver dispensed the drinks and with them came a third. Wisdom glanced up in surprise; roboservants rarely made mistakes. Then a little smile relieved the lines of strain on his thin face. He stood up politely and indicated a third seat.

"Won't you sit down?"

The girl accepted calmly and sat. She picked up her drink and regarded them over the rim. She was young, about their age, and make-up had done little so far to ruin that purity of complexion that in later years she would sigh after in vain. Her scarlet tights and black bolero with the synthisilk gauze casually flung around her shoulders left no doubt as to her sex; Wisdom at once felt bored. Toby Rogers seemed to swell, his eyes grew brighter in the bar's lighting and he slid easily into his lady-killing rôle.

Wisdom picked up his drink, drank it too quickly, wiped his mouth, put the glass down and said: "I'll be pushing off, Toby. See you around."

"Must you?" Rogers said, looking as though he'd slaughter Wisdom if he dared recant. Wisdom smiled.

"Cheerio—be good." He walked away and took the lift to the hotel rooftop. Here the planetary atmosphere was clean and crisp, different from the lower levels where already the busy hand of man was fouling the air. He breathed deeply.

Above him the stars spread thickly. He tilted his head and stood, relaxed, and allowing his body to slow down and tune into the cosmos. There was always something subtly different about seeing stars through the misty veil of a planet's atmosphere instead of their hard, cold arrogance in space. But that was how they really were, bright chips of light, unwinking, unyielding; not as he saw them now, shimmering with twinkles in a friendly, beckoning familiarity. He thought of Takkarat.

His first memories were of the stars from the little window above his bed. Takkarat hadn't been a bad place, in comparison with what he'd been through since; why had it always seemed that he'd been dogged by ill-fortune? Everything he touched had turned out ill. Now, with the soft night-wind on his cheeks and money being made for him by associates, he should be happy. It did not take a magician to know that he wasn't.

How long he spent on the roof he did not know; hours later he descended to his room and turned in. Rogers was still out. In the morning he was up and about and took a deal of satisfaction in

rousing out Rogers, who swore vilely and complained of a head. Wisdom was cheerfully ruthless. And then he became very still, listening, as Rogers talked.

"Seems as though the lady friend had her eye on a bright pair of spacemen. You and me, Pete. She knows where a ship blew up and has the drift logs charted up to date. Big thing is—the ship was carrying ten million in currency."

"I don't believe it."

Rogers laughed and towelled his wet head where Wisdom had showered him. "I didn't. But she showed me the details. All she—and her father—want is a ship."

"The *Hondureno*?"

"Right first time."

"What about Leroux and Belgrano?"

Rogers laughed again, in a different key. "That, I admit, is a problem."

They mused on the problem as they took the monorail out to the spaceport. Wisdom found no surprise that he believed Rogers' tall story; it was typical. There *was* a ship, drifting derelict, out there in the starways with ten millions of currency waiting to be picked up. And Rogers said he knew where she was.

Then, as they were met by apologetic and worried spaceport staff, all dreams of wealth were washed away. Smoke still drifted flatly, and the wind was cold.

"There was nothing we could do," the Traffic Manager said. "She just blew up, *pouf!*, like a firecracker."

"There will be the insurance," put in another official placatingly. "No blame attaches to anyone. It was an accident."

"Where are Leroux and Belgrano, our partners?"

No-one knew. A liner had left for the Inner Suns that morning; the two missing men might have been aboard. They might have been aboard *Hondureno* when she exploded. Who knew? All that Wisdom knew, when details were sorted out, was that the insurance policies had been taken out in Leroux's name, as senior shareholder. Wisdom and Rogers exchanged looks of fury and dawning fear. There was nothing for them; they were again broke and stranded. They checked out of the hotel.

"Now what do we do, Toby?"

"Find Shirley—she and her father know where that derelict is. They mustn't try to get anyone else to help them before we get on our feet again."

"I don't believe that any more. It was like the ship and the

help we had from Leroux—all faked when you needed help.” Wisdom tried to understand the crazy pattern of his life. He could see nothing in it that made sense. “Why should they contact you, just arrived, when they had a whole planet full of people to help? It doesn’t add up.”

Rogers had that uncomfortable look again. “I know, Pete. Odd things happen to me. Always have. Born on Takkarat, like you, with a silver rocket in my mouth.”

“Well,” Wisdom said bitterly. “You’d better come across another of your lucky breaks again—fast.”

This time they were together when it happened. They’d stopped off at a third class restaurant and were finishing their second coffee when the two men approached their table, smiled and sat down without invitation. They could have doubled for each other; sober business suitings, white collars, incisive, watchful faces, sleek and well-fed.

“Mr. Toby Rogers?”

“Yes.” Rogers threw a quick look at Wisdom. It seemed to say: “Here we go again.”

“We have a little business deal to discuss with you. We understand that you have——”

The second man nudged the first. They went into a huddle. Sitting quietly watching them, Wisdom grew aware that their interest in him had been aroused; they were giving him looks that would have scarified a rocket liner. To his annoyance he began to feel uneasy. Rogers sat philosophically.

The conference broke up and the first slicker spoke again, carefully, his voice held an artificial note of casualness. “Ah, Mr. Rogers. This is private business. Your—ah—friend——”

“This is Mr. Peter Wisdom——”

“Wisdom?” It was a supersonic whiplash.

“That’s what the man said,” interrupted Wisdom in mounting anger. “What’s wrong with me? Snakes for hair?”

“Ha ha, very apt, Mr. Wisdom. Yes.” The phoney jarred on Wisdom. “But our business is with Mr. Rogers. Perhaps, Mr. Rogers, your friend could excuse us—or we could——”

“Don’t bother to move.” Wisdom stood up and the table wobbled so that the vase of flowers toppled. Water spilled. “I’m going. See you later, Toby.”

“All right, Pete. Don’t you worry, old son.”

Wisdom blundered from the restaurant, furiously angry. He was angry with himself for his own apparent ill-luck; he was angry

with Rogers, quite illogically, for his weird power of attracting good fortune; he was angry with the Galaxy for some odd reason—probably that it had been created in the first place. And he was angrily hurt at being excluded so pointedly.

People with no family roots do not take kindly to being made fools of in public. But perhaps the deepest sense of anger stemmed from the shame he felt at the inner conviction that he would accept the help now being extended to Rogers; accept with alacrity. There was in Wisdom some deep wellspring driving upwards and forcing him, willy nilly, to the achievement of great deeds; vague, nebulous dreams hinging, he sensed obscurely, on the making of a great fortune.

Later, he went back to the restaurant, but Rogers and his friends had left. He wandered round Bogota City for a spell, doing nothing, barely thinking, aware only that he was waiting for Toby Rogers to drive triumphantly up and include him in their new found prosperity.

He waited a long time.

Towards morning, tired and hungry, he was shocked into realisation of the time by increasing traffic and pedestrians and the first hesitant fingers of the dawn. Wisdom had never been to Earth, as far as he knew; people said that Bogota and Earth were very much alike. Drawn as though by remorseless invisible claws, he walked towards the space port. Long before he reached the terminal building, he saw the morning liner leave.

He knew, in that moment of dawning, with the slaty screech of the ship's trail across the sky; he did not know how he knew, but he knew.

"Mr. Toby Rogers?" they said, as he had known they would say. "Oh, yes. Pleasant gentleman. With two friends. Checked out on first sailing. No, sir, sorry. No destination stated." They smiled, emptily. "Sorry we can't help you."

The underwater room was as bright and cheerful as ever, with the flickering brilliancies of agile fish etching for a moment a butterfly's coloured wing against the veiling blue. The players of the Great Game sat in their accustomed chairs, looking not a day older than when they had first thrown the dice, twenty-four years ago.

"How you thought you'd get away with it beats me, Renoir," puffed Crompton, slitting up his eyes in his reddened face.

Belzoni laughed obscurely. "Renoir thinks he can get away with anything he thinks of."

Wu Ssu-hsun smiled and did not say anything.

Peter Wharton looked gravely at Beddleston, silencing the nervous man's quick flow of words. Wharton, for reasons he knew only too well, loathed the idea of the Great Game; he shrank from these meetings where progress was discussed; he looked forward only to the day when the damned hundred million had been made and he could have Peter back. Now, tiredly, he said softly: "Well, Renoir, you know the charges, what have you to say for yourself?"

Renoir was coolly self-assured and completely impenitent. "I tried a smart trick; it didn't come off. What else is there to say?"

"A smart trick!" Beddleston exploded. "I'd call it another name. This is a game, Renoir——"

"But of course. Just a game. Why the excitement?"

"It's a game, Renoir. And you cheated!"

Silence. Then Wu Ssu-hsun said gently: "I cannot think that Renoir really felt he could push off a ship with ten million aboard and then have his protagonist find it, like that, without something coming out. It seems to me it was in the nature of a ploy."

Renoir flashed his teeth at Wu. "Thank you." He looked at Wharton. "You see, Peter, your boy had been hanging around my protagonist, more or less getting fat off the work my lad was putting in. It was a strange chance, both of them following the same paths in their careers, but——"

"Just a minute, Renoir." Wharton did not stand up; but his physical presence blossomed. "It was chance. You said correctly that it was strange. What you haven't explained is the odd fact that your lad was helped enough to help Peter—that is, my protagonist; and the way you found out."

Renoir smiled; the smile was quite sincere.

Wharton went on: "From now on a check is being kept on each protagonist. No more help. No more mysterious legacies. No more drifting treasure ships. Understood?"

They all nodded assent and beyond them the fish swam unceasingly in the blue world beneath the Mediterranean.

"Sorry we can't help you." Peter Wisdom heard those words repeated many times in the ensuing months on Bogota. He tried to land a position with the Bogota Space Lines and was regretfully turned down when they uncovered his Space Navy expulsion. He washed dishes. He operated roadway cleaning robots. He became a stunt man in a circus and broke three ribs. Hospitalisation cost him money which he could make only by working in the hospital.

He grew bitter and morose and struck despairingly at fate; and fate laughed and spat in his eye. One day he walked out of the hospital with two shillings in his pocket and the clothes he stood up in and a toothbrush.

As he walked along under the monorail arches a man came out of the shadows and struck him over the head. When Wisdom recovered, the two coins, his shoes, his jacket and his tie were gone. He groaned, rubbing his head, and rolled over and sat up. Even the toothbrush had been stolen.

In that moment, with his worldly possessions a shirt, a pair of trousers and a pair of socks, Peter Wisdom changed.

He stood up. He looked up at the night sky, tracing the stars' bright twinkle and feeling thoughts pouring through his head frighteningly. He did not say anything; he did not utter any immortal words. But inside him his heart closed up like a clenched fist.

He walked back into Bogota City and failed to notice that his socks were in ribbons and his feet bloody. Even in that moment of frightful self-revelation and self-abasement, he did not descend to crime. Somehow, he knew, to rob another man for his two shillings and his toothbrush would not answer the purposes that flowered in his mind. There were other ways.

He found those ways. Deviously, buying here, selling there, working all hours and never wasting a penny, he built up his fortunes. He did not know the meaning of the word mercy. A defaulting debtor learned to pay Wisdom first; before he paid anyone else, even if it meant pawning his wife's fur coat. He was happy to stay on Bogota. He bought the bits that were left when the *Star of Sirius* blew tubes and sold them as replacement parts after he had worked six months on them. His bank balance grew. He learned about stocks and shares and the intricate dealing in commodities between the worlds, picking up his information not in economics college but in the hard, shady world of the back-streets and the intercepted message. His first big break came that way. The word was out that a new planet was due for incorporation and the big operators were speculating heavily. Wisdom got their prices and their forms of contracts through a typist who couldn't do without her dope. He practically opened up that world single-handed.

And that marked the first rung of the ladder.

After that it was a matter of adding to what was; of letting what blossomed flower; of pulling only the right strings and letting the small profits go by.

Inevitably, he was crossed; inevitably, men tried to crush him. When that happened he used to think of the dark shadows of the monorail arches and the man with his upraised arm; and the crusher became the crushed. Inevitably, he broke other men. He had no emotions about that, either of joy or sorrow. He was a machine, ploughing on, striding through the economies and the planetary exchanges of a dozen solar systems and still with only a hazy, nebulous understanding of what he was doing and where he was going. The doing of it alone was the joy.

For no particular reason, except perhaps as a masochistic spur reminding of unhappier days, he made his headquarters on Bogota. The planet suited him. He built a hundred floor skyscraper and dwelt in a crystal and plastic palace he called an office. Money, notables and power flowed through his doors. He made the acquaintance of other power-moguls and felt his way into the spider's-web of intrigue and double-dealing that was the outward shell of high finance. He had not yet discovered the inner ring where honesty and trust and disinterest held rule. That would come.

Some ten light years off, in the system of a double star, he became aware of another planetary economic empire, which troubled him. After it had twice fouled him, he turned and crushed it. Its head, a man called Chandler, was prevented, just in time, from shooting himself, and took up a position as hireling to Wisdom.

The underwater room was quiet. Belzoni clapped a friendly hand on Wu Ssu-hsun's shoulder. "Hard luck, Wu."

Wu Ssu-hsun smiled inscrutably. "The hundred million has not been gained yet. Perhaps my protagonist will still make good. Who can say?"

Crompton chuckled beefily. "Mine's half way."

"Time will tell," said Wu Ssu-hsun.

After that incident, life settled down for Wisdom into a long, monotonous stretch of effort, shot through with the dramatic lightning of a sudden coup, or a big killing, or the choice exploitation of a new world. One day, out of idle curiosity, he totted up what he was worth. The result astonished him. As near as he could figure, with details constantly changing, he was worth fifty millions. He whistled. He was by this time shrewd enough to have reasoned out the existence of an inner ring, a tightly-knit group of super-

financiers. He guessed that these men, possibly less than a score, between them possessed all the wealth of Man's portion of the Galaxy that was not openly tied up in smaller fry like Wisdom himself. The idea fascinated him. He bought a yacht—a deep-space model—and toured a dozen star systems, drinking in the evidence presented by hectic activity everywhere he sailed. Again he became aware of pressure, this time from a group operating from a planet fifty light years from Bogota. Crippling them and then absorbing their resources was routine.

"That's my lad gone," Crompton said ruefully. "Your boy's a real Hellion, Peter."

Renoir just smiled. Belzoni nodded sympathetically towards Crompton; Beddleston took a cure for the twitches.

On Wisdom's one hundredth birthday, he indulged himself. He was still a young man, with a good nine hundred years of life yet; but he became obsessed with the desire to visit Earth. His yacht put down at South Pole and the subway took him through to South America. He spent a pleasant ten years wandering Earth, comparing her with Bogota and realising for the first time the difficulty men found when trying to describe the differences; Earth was Earth and there was no other single place like her in the Galaxy.

After his holiday, with all its pleasure, he was surprised by the fierce joy that possessed him when he once again plunged into the interplanetary economic jungle. His touch was sure. He could sit in his office and calculate to the last erg and last pound the demands of opening up a new world, and go on and cost them out to the last soldar. His mind held patterns that were pathways between the stars. Man's portion of the Galaxy was a great chess board, and handling the pieces that were men and machines and ships, became something he could perform without conscious thought. Not once but three times he was placed under the necessity of dispelling opposition. Three immense interplanetary financial combines were crushed.

"It's all very well when these lads break themselves, Peter," said Beddleston wrathfully. "Belzoni and I don't mind our pawns being smashed. But your lad broke up old Sam Itmad-ud-Daulah. You know he wanted to opt into the Game; but you said we were full up."

"I feel the responsibility no less than you," Wharton said wearily. "We'll put Sam on his feet again. However, he cannot have been very sound, to have gone down so easily."

"The way I heard," Belzoni said, still smiling. "Your lad is pretty rough, Peter."

One hundred million soldars, no matter in what form it is owned, is a sizeable fortune. It, so to speak, lifts one out of the rut. And in the event of a planetary economy changing sufficiently drastically to shift exchange rates, that fortune could fluctuate alarmingly. When Wisdom had left Earth after his hundredth birthday spree, Earth's pound—the old pound sterling was still the Terran unit—was selling at the even thousand per soldar. Twenty years later it had advanced fractionally to nine hundred and seventy-three to the soldar. Because of this, and breaking an unwritten law, Wisdom interested himself in Terran stocks. The old planet was not played out yet, even if the last blade of grass was triple-owned, mortgaged to the nth power and hourly expecting a writ of possession to be slapped on it.

His pastime of totting up what he was worth had grown into a habit. And, inevitably, that glittering figure of a hundred million formed some landmark in his mind. His old dreams of glory and gracious living were being amply borne out in fact; but he still didn't quite know why he had felt as he had or why he kept on going. Yet the notion of throwing it all in and giving himself up to a life of pleasure did not occur to him. He spent his dreams out there in space, where the ships drove between the worlds, making him money; but more than that, creating an interlinking network of commerce throughout Man's portion of the Galaxy and maintaining levels of culture in an even expansive flow. And Wisdom's mind was engraved with that Galactic network so that it became part of him.

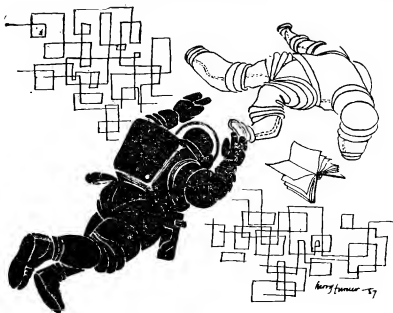
With all his preoccupations, the day he had half consciously been expecting dawned with no surprise. He okayed his robo-secretary's enquiry and the door opened to admit Toby Rogers.

Rogers looked fit and prosperous. He exuded confidence and good living. Their greeting was cordial.

"No hard feelings, Pete?"

"Why should there be? You just got sick of having a chunk of non-payload weight on your tubes."

Rogers shook his head. "Not quite, Pete. It's a long time ago; but I can still remember it in detail. Those two men—"



"You mean exe and his pal cutive?"

Rogers laughed. "To a T. They had a proposition, the usual sort of thing I was picking up all over at the time. Well, after a bit of dickering, we went out to that derelict."

"I remember. Ten millions, wasn't it?"

"So the girl said. I believed her, too. When we caught up with the wreck,—sure, it was there all right,—we found a ripped space suit and a handbook on antigrav hockey. Nothing else."

Wisdom chuckled. "The girl pulled a fast one on you."

"That's what bothered me. I don't think she did. I think someone else got there first."

"Well, it wasn't me. Around that time I was busy breaking ribs in a circus." Wisdom's eyes clouded. "I was in a pretty poor shape, Toby. Did things to my guts."

"Tough. Well, we made it back to Bogota and these two guys did a quick fade. I couldn't find you. You've told me why." Rogers leaned forward. "Since that day to this, Pete, I've had nothing like the old lucky days. Oh, sure, I've made money, like you, millions. But nothing just falling into my eager sweaty paws. Until now."

"Go on." Wisdom realised that they were back in the present; both multi-millionaires, both ready to talk business.

"You know that new star-cluster they call Alfieri?"

"Vaguely. Brand new sector, isn't it?"

"Right. Survey ships just scratched the surface. But I can tell you there are at least fifty stellar systems to be opened up. Biggest thing in years. And so a guy comes in and puts up a proposition that smacks of the old days. So I think of my old pal Pete Wisdom and here I am. Come in with me, Pete."

Wisdom looked directly at Rogers and chuckled. He was enjoying this. He said: "So you can't swing it on your own, eh, Toby!" Rogers began to show signs of dawning comprehension, followed by anger—and fear. Wisdom went on: "That's all I wanted to know. Sure, I'll come in with you, Toby. Only—as you've guessed, too late—that proposition was put up to you by one of my stooges."

Rogers had himself under control now. Wisdom poked a casual finger at him. "You were the only man I knew in the brackets I wanted; most of the financial houses are pip-squeaks compared to us these days." He did not mention the vague inner ring he suspected existed somewhere. "You can come in with me, your ships can do plenty of work, and I'll scrape off the gravy. A nice friendly deal."

Rogers stood up, brushing his coat. "Sorry, Pete. I wouldn't come in with you now if it was to save my neck—"

"It might be, Toby boy. It might be, at that."

"You handle the Alfieri business your way—I'll handle it mine. We'll see who comes out on top."

And on that, they parted. Wisdom didn't even bother to worry. He knew, quite positively, that his organisation could outmatch Rogers on the starways between the worlds. The Alfieri operation went into top gear, and, as the years rolled past, Toby Rogers' empire crumbled. It was all very scientific and businesslike; there was no room for energy-wasting emotion. That it was Toby Rogers this time who was being steam-rollered could mean nothing to Wisdom; he would not allow it.

The first hesitant hair-lines betokening cracks in a financial empire were difficult to detect when you were in the centre, looking outwards. So many details fluctuated from day to day as the sub-radio chattered prices and interest rates across the Galaxy which cybernetic machinery that ran itself evaluated, condensed, prognosticated and distributed, that a trend might be under way and the fate of a planet sealed long before notice was taken. This was the

field in which Wisdom excelled; he could spot the tiniest fluctuation and decide, immediately, upon the correct action—correct because he had so far not made a mistake. His training, his natural gifts and his aptitudes fitted him for interstellar juggling.

And yet he missed the first slipping of the wheels.

He didn't notice when he dropped the first of his juggler's coloured balls. Perhaps he was too busy not thinking about Toby Rogers; perhaps he was too busy thinking about that figure of a hundred million.

When the landslide began he was in the midst of discussions with a spaceship building yard for additions to his private fleet. He was looking forward confidently to the imminent day when most of his juggler's balls could come to rest—when he settled up most of his outstanding loans and long-term mortgages—and the property, in concessions and buildings and ships became his own at last. Bound up with all this planning, itching away below the surface of his mind, was the pleasurable knowledge that he would then surely pass the one hundred million mark. But then the landslide began.

Immediately he became aware that he was slipping he thought of Rogers. But Rogers, although picking up, was in no shape to challenge him. Gradually, as the months went past and things went wrong, he saw his carefully hoarded and fought for world disintegrating. He made small gains here and there; but the overall picture showed him, through the coldly impersonal senses of his robosecretary, that the trend was established. A minor sort of frenzy shook him. As his wealth shrank he took to carrying everywhere in his pocket two shillings and a toothbrush.

Inevitably, the day dawned when he was no longer a rich man, no longer a power in the Galaxy. He was profoundly grateful that he had not married. He knew that he had enough money, that he would never again starve; but his bright dreams had burst like a child's soapy bubbles.

There was time, even, for him to interest himself in the reports that had begun to flow in from the new Alfieri sector of rumours of an alien race. At any other time he would have been wildly excited at the prospect of mankind at long last making contact with another intelligent race in the Galaxy. As it was, he read the reports and went back to thinking about his own prospects. The aliens might start waging interstellar war; Peter Wisdom had other things to worry about just now.

And round about that time the voice began talking inside his head.

His immediate, instinctive reaction was to fling round to his surgeon and have the damned plant cut out. Then the wonder of it hit him. Throughout his life he had been carrying around this neural transceiver because he was as sure as he could be that it had not been planted since he could remember; therefore it must date back to his childhood and was the strongest of links to the mystery of his origin. A fever of excitement gripped him. He listened to the voice, jumbled, evidence that the transmission source was light years away, and transcribed orders that he should proceed at once to Earth.

Go to Earth!

He took his own yacht—which, strictly speaking, was illegal as she was sequestered—and made for Earth's South Pole. The voice seemed to suggest that he change his planetfall to southern Italy and then to a sea touchdown in the Bay of Naples. All this he did as though in a dream, a dream engendered of sleepless nights, strained daytimes full of the struggle against incipient ruin, and the drumbeat of mocking laughter at his downfall. He entered without surprise the submarine awaiting him. Blankly, blindly, a mere mass of expectant jelly, he slid beneath the waves and so through the airlocks into a transparently walled undersea room of cool beauty and cultured luxury.

A woman rose from a formfit and walked quickly towards him. She stopped, hesitantly, her hands half raised, her face pleading. She was, Wisdom saw, extraordinarily beautiful. There was more than just beauty in her face and figure; there was something else, an indefinable aura, a sense of complete identification, a feeling of coming home, a strange, brain crawling sensation of relaxation and sheer happiness such as he had never before experienced and had never dreamt could even exist. She smiled. Wisdom felt the pang of that smile strike the very roots of his being.

"Peter?"

"I'm Peter Wisdom, yes. Who are—you? Was it you brought me here?"

"No—I would never have let you go. It is not for me to explain—"

"Let me go?" Frightening images were gibbering at Wisdom. He felt as though he was on the verge of an awful abyss. "Who did bring me here? Tell me, what is going on?"

A smooth, laughing voice interrupted. "The game, Peter; the Great Game. And you were a damned tough player, believe me."

The woman did not turn her head; her voice did not rise a note; yet it was as though she had slapped the man about the mouth. "Please, Renoir, leave us alone for now."

"Well, all right, my dear. But the meeting—"

"The meeting is not due yet. Please go!"

Wisdom and the woman were again alone. He stared at her. She put a trembling hand on his arm. Wisdom felt weak.

"My name is Barbara Wharton. My husband is Peter Wharton. We, that is, our group of friends, were bored, we needed new stimuli. So Peter invented a game, the Great Game." Wisdom did not move; he was listening with a lifetime of passion pent up inside him ready to spill over. "There were six of us. We each selected a child, an orphan, and sent him into the Galaxy to make his own way. The first child to amass a personal fortune of a hundred million soldars made his sponsor the winner—"

"A hundred million soldars!"

"—and Renoir, the man you just saw, is the winner. His orphan has just reached that total."

Wisdom said softly: "And his player was Toby Rogers."

She nodded. "Yes. It must seem awful, cruel, inhuman to you; but there were other reasons—"

"Inhuman? Oh, I don't know. I expect the six orphans have done better than they would otherwise have done." A smile blasphemed his lips. "Even I, a pawn, have done well, up to a year ago, that is."

Lights reflected in her eyes; tears trembled there like stars. "Peter—Peter—your father had other reasons for sending you out into the Galaxy. I thought I would shrivel and die when you went, a baby, nine months old. I—I—can't you see, Peter. Don't you feel anything?"

"My father?" Rockets burst in Wisdom's head. "Then I wasn't just an orphan. But, what man, what woman, would cut off their own child—"

She was sobbing now, deep body-shaking spasms of emotion. Wisdom put his arms around her. They stood like that for a very long time. He knew the answers now. And he knew that this woman—this woman who was his mother—had had no heart for the Great Game.

It remained for him to see this man Peter Wharton who played with the destinies of children in the Galaxy, this man who was his father.

When Peter Wharton walked briskly into that transparent

undersea room and stood, staring quietly at his wife and son, it was, to Wisdom, as though he were looking into an oddly disturbing reflection of himself. This man was his father; there could be no doubt about that. Others walked quietly in and took their places. The last full meeting of the players of the Great Game was about to start.

Yet Wisdom still stood, one arm about his mother, staring, staring at his father.

Peter Wharton stirred under that scrutiny. The corners of his eyes crinkled and lines spread backwards, like years of experience beneath his temples. He smiled. Then, courteously, he gestured to a seat. Obediently, like a man in a dream or a child obeying its father, Wisdom sat down after showing his mother to her formfit. Then Wharton glanced slowly about the room. He introduced the men and women present to his son. Renoir, Beddleston, Belzoni, Crompton, Wu Ssu-hsun; the five men who, together with Peter Wharton, made up the half-dozen most powerful men in the human portion of the Galaxy. Wisdom could see that clearly enough now, and the proof of his own dark suspicions brought no joy to him.

Peter Wharton said: "This is the last meeting of the players of the Great Game. We all acknowledge that Renoir has won; and we congratulate him. But, before we go any further, there is a matter of the gravest importance that must be discussed."

Wisdom thought sardonically that now it came to him. He still hadn't fully adjusted; the human mind lets a little slack out in moments of great emotional stress. Later on he'd suddenly realise that he now had a mother and father. But, right now—his father was talking.

"Some of you have contacts out in the Alfieri sector. You've probably heard rumours of a race of aliens." They all nodded, waiting. "These rumours are rumour no longer. The aliens exist. What is more, they have been proved positively to be unfriendly."

The quiet voices, so used to authority, so used to being capable to handle any emergency, tossed the information about as though it were a mere stock fluctuation. "We'd like some more information, Peter, if you have it."

He nodded. "I have very little. It seems they attacked some of our freighters who of course were helpless. However, by chance, one of their ships was captured; I believe it went out of control; and is now on our central planet of the system. They have also been attempting to open up trade routes in competition with our own and have frozen out some of our own ships from outlying

planets who feel they are safer dealing with the aliens. It's a complex position, made worse by the reluctance, a very natural reluctance, of the frontier worlds to become involved in fighting."

"Fighting is useless," Wu Ssu-hsun said fretfully. "The aliens must know that, too. They'll try to throttle our trade." The talk flowed on, suggestions and counter-suggestions, all polite, all controlled; these men were deciding the fate of the Galaxy yet they were relaxed, poised, civilised. Perhaps, Wisdom thought, that was the key-word.

He found nothing incongruous in the situation where a man who had just found his son again, spoken to him for the first time since he was a child, was calmly discussing the happenings around distant suns light years away. The instinct of the businessman, bolstered and refined in Wisdom during his days of struggles, came boiling to the surface. He found himself entering the conversation, pointing out a flaw here, pointing up a good idea there, shaping a tentative outline of a plan which by sheer trade and commerce alone could contain the aliens and render their harmful intentions futile.

He became aware that he had been talking for some time quite alone; everyone else was intently listening. The others' faces were rapt, they nodded occasionally, they were in complete accord with his plans and ideas. Only his father had a different expression. Peter Wharton's face looked almost fatuously self-satisfied. Wisdom stopped speaking and sat back, looking about him, abruptly aware of his position.

Beddleston said eagerly: "Your boy's a genius, Peter. He's got everything at his fingertips. The star routes and information he carries in his head would take me weeks to sort out with my office equipment."

"I agree," smiled Belzoni. "His ideas will seal off the aliens thoroughly."

Wharton still did not speak. Shoshana Renoir, with a quick look at her husband, said: "I agree, too. And I don't see how our boy Toby Rogers could have won the Great Game."

"This is no time to talk about games," began Wharton.

"I think, perhaps, it is." Wisdom put an edge into his voice. "With all the alien talk we've had, I think maybe you forget that I am your son, and you condemned me to go out into the Galaxy alone and naked just to satisfy a whim of yours. A game! Good God! You'd sacrifice your son for a paucity game."

"Now, Peter—" said Barbara Wharton. No-one knew if she was speaking to her husband or her son. Perhaps she didn't know herself.

"Let me tell you why, Peter," Wharton said gently. "I invented the Great Game, as you say, to satisfy a whim. That game kept us interested when we might have been bored. A very vicious and sadistic pastime, you would say? I agree, but for one or two minor details. No, don't interrupt. You did not win, you did not make your hundred million first. Someone deliberately ruined you at the end. I ruined you, Peter. Yes, I very carefully pulled down your Empire. I had to, you see. I wanted you to go through every emotion; only then would you be ready to do the job the Galaxy requires of you."

All Wisdom could say was: "What job?"

"You're already doing it. I could see years ago that one day mankind would run into aliens. We would want to be friends; but would they? As it turned out, they don't. So we must fight them. But you can't fight interstellar wars as you would fight wars across a continent. So commerce, trade, the power of economics would be the weapons we must use. And who was to use those weapons? I knew, Peter, that if a boy made his own way, fighting his natural enemies in the world of commerce, he would turn into what might be called a master-general in the armies of tomorrow. All of us are too soft; we work to rule. We have never gone hungry and struggled to make our first million. But you have—you've turned into a master strategist of economics. The human mind is still so far ahead of machinery, even in these days, that no-one alive can keep up with you using merely machinery."

Wisdom was on his feet. He was very pale, and his stomach hurt. His hands were clenched so that the nails cut the skin of his palms.

"You did that—"

"Oh, Peter," said Barbara Wharton, and this time there was no doubt as to whom she spoke.

The undersea room was very still. "I was sorry at the time I had to ask my own son to undertake the task. But now—" Wharton's voice rose. "Now I am glad—and proud."

"And I," said Wisdom, "am sick to my stomach."

The others ignored him as though he had not spoken. Renoir, as though voicing all their thoughts, said: "So it wasn't all just a game, eh, Peter? As usual, you did put one over on us, just

as I said you would." He smiled across at Beddleston. "And you were pyrotechnically inclined over my help to my boy."

"I was alarmed when that happened," Wharton put in. "Any imbalance, any forced help, would have negated the plans. Peter here had to learn to think for himself, learn to fight and go on fighting against whatever opposition he encountered. Only in that way could his aptitudes, which, I'm not modest enough to deny, sprang largely from his ancestry, be fully developed." He breathed out shakily. "Thank God Peter came through in time to handle the very crisis he—"

"He was designed for!" Wisdom flashed bitterly and with his hurt gaping with salt. "Why don't you say it!"

"If it hadn't been you it would have been one of the other five, Peter."

"Would to God it had."

"You don't mean that. You may think you do; but now you have before you the greatest task yet faced by any Earthman. You must, through your own aptitudes and developed powers, turn aside the alien menace to mankind's part of the Galaxy."

The simple solution came to Wisdom then. "I've still some property here on Earth. A little nest-egg that I tucked away through sheer sentimentality, and because the rate of exchange made it attractive. Now, if you'll excuse me, I'll just potter off there. You can work out your own systems to deal with the aliens."

"You'd turn over mankind to the aliens?" Others broke in, bewildered, not really believing. "Sell Earth short?"

"You forget. I've had a belly-full of the military life after that Space Navy college at San Juan del Norte. I'm no military man, not even with the weapons of commerce."

A sudden, betraying contempt for these men filled Wisdom then. All their pretty schemes to come to naught because one man decided no longer to go along with them. It was ironically pathetic. Barbara Wharton walked slowly across to him and laid her hand on his shoulder and again Wisdom experienced that thrill of contact, that deeply disturbing realisation that this woman was his mother.

"Peter, quite apart from any duty you may conceive you have to Earth—it's your father who's asking this. And I, too, implore you not to let him down. This is an involved emotional tangle, the fate of the Galaxy tied up with your own pride—"

Wisdom was incredulous. "After sending me off to be a pauper, a slavey, fighting my way up from the gutter, you'd invoke

family emotion? Can't you see, my father doesn't mean a thing to me. How could he? After all this time?"

"Don't I?"

"Yes." The words rushed out, quite beyond his control. "Yes. More than I can express. But then, your aims are different. To thwart my father's ambitions now is a luxurious thought." He touched her hand gently. "Selfish, but me."

"Yes, you, Peter. Just as your father would have been. We were all blind to think we could steamroller you into a situation of this sort."

Wharton looked dazed. "You can't be serious, Peter. Don't you understand? Earth's life is at stake! You can't allow a prejudice, a natural anger at what you consider a low trick, to influence you. The whole problem is on a higher ethical level." He struggled for words, discomposed for the first time in centuries.

Beddleston screwed up his face. "There's more to it than you appreciate, Peter. What you've done to your boy is classical. You take a human ego, and you thwart it, you make it fight at every turn, you feed it information that will make it think along lines you require, you make it anti-social; you goad it into superhuman endeavours for self-survival. So, it evolves, it expands. What do you end up with?"

Wu Ssu-hsun said mildly: "A genius."

"Right."

"So he's a genius," Wharton said. "Of course he is! He can handle the starways data—well, you saw. But this—"

"Is part of the pattern. To a genius, the I is all. In some, that is. In Peter's case, for example. Why should he help you, who have goaded and driven and thwarted him all his life? Even for something nebulous like the Galaxy?"

"He will!" Wharton thrust his face into Wisdom's. "He will! As he's a son of mine, he'll do as he's told!"

And so, of course, on that there was only one thing Wisdom could do. He kissed his mother, nodded stiffly to the others, pointedly ignored his father, and walked out.

They let him go.

The property he had purchased years ago had been kept up by roboservants and he was able to take a personal roboship direct, land, walk through the reception hall and so to the study which he had had fitted out to simulate his office on Bogota. The property was quite small, a house and a few hundred acres, situated in the better part of the Sahara Development. The cool green of

trees and grass and the gentle shimmer of rivers soothed his jangled nerves. Earth really was a wonderful place. And an even more wonderful place to come home to.

His nearest neighbours called and he spent a few pleasant, relaxed evenings with them. News of the aliens seeped through, none of it good, most alarming. Deliberately, he shrugged the thoughts it induced off. It was no affair of his. The government of Earth, in liaison with the administrations of the solar systems under Earth's influence, announced that everything was under control; that meant, Wisdom knew, that the group headed by his father were working on the problem. He smiled cynically. They had lost their ace. Him. Oddly enough, there was no comfort in the thought.

He grew moody and irritable, jumpy when the evening light played tricks with shadows. He was not at peace with himself and the sensation was new and unpleasant. He had to admit that his father was playing fair; the planted neural transceiver in his brain remained silent.

At the other end of that transceiver link, in the cool underwater room in the Bay of Naples, Peter Wharton and the other players of the Great Game awaited what time would bring. Wharton, tired, strained, filled with the immediately pressing demands of his post, newly conferred, of Minister of Defence, carried out his duties with a quietness and composure that at times brought rare interludes of annoyance from the others. They fretted over the total failure of his plans; they saw and agreed completely now with what he had done and the failure angered them in their own different ways. They wanted some dramatic incident to occur and so change Peter Wisdom's outlook; they sought about for levers to move his stubbornness. And, as he had known they would, Peter Wharton smiled as they found nothing. He thought he knew his son.

Barbara offered to fly across and see him. Wharton was indifferent. "He will do all that is necessary, in his own way and in his own time. I only hope that nothing irrevocably wrong will happen out there among the stars before he is ready." Barbara touched his shoulder, as she had Wisdom's, and stayed in the undersea room.

Peter Wharton knew his son; the years of observation, when he had watched him growing and fighting his way towards not that tenuous goal of a hundred million soldars but towards the concrete consciousness of power to handle fleets and commerce in any crisis, had not been wasted. Wharton waited in quiet confidence; and

meanwhile he attempted to handle the emergency himself. Things did not go well for Earth.

Wisdom, who had disdainfully retained that name in preference to the Wharton he now might use, heard stories of that mangling that went on out there in the whirls of star dust. Men came back to Earth; and their tales were not pretty. The aliens were forging into mankind's section of the Galaxy with contemptuous ease and there seemed no way to stop them, now that warfare was outdated and ineffectual.

The news came through to Wharton, along with many other trivia of the interstellar conflict, that amongst the financial concerns ruined by the aliens was numbered that of Toby Rogers. His power in the Alfieri sector had been humbled and then crushed whilst the aliens moved on. The other five of those who had played the Great Game felt that perhaps, just perhaps, here was the lever they were seeking.

Wharton was sceptical but nevertheless passed on, by a round-about route, the information to Peter Wisdom. Wisdom read without a movement to betray his feelings. So poor old Toby was finished, too. There was no lever, here, that anyone could see to move him to revenge. Revenge was an emotional state that, because it was self-injurious, he had discarded long ago. Revenge himself on his father? Unthinkable!

And so, even though that minor incident in the stellar commercial war had no power to move him, it yet initiated trains of thought that he would have wished stifled, and forcefully, with insidious fingers, opened his eyes to what he was doing. He had reckoned without the future.

As soon as the Naples station had transcribed his call through the undersea link to Coralgrove, and he had made the appointment, he felt differently. What he felt he could not have explained; his emotions were cloudy, oddly exhilarating and yet shameful, disturbing; he had no star to steer by and knowing no star shone for him still yearned for what was not.

One thing he did know, thankfully, was that stifling sense of drifting, of lounging about without thought for the future was gone. He had, if he'd been in the habit of expressing himself in those terms, come alive again.

The players of the Great Game were sitting in their formfits, with the glory of the undersea pageant vibrating beyond the walls. They were relaxed, poised, assured. A sense of triumph, of heady expectation, was in the air.

Peter Wharton looked across at Barbara, and touched his wife's

hand. She smiled back. The long years of waiting and separation were over; they were a unit again.

"So our son's a genius, Peter."

"In a limited sense. In the sense we need him, the Galaxy needs him, he is a genius. Because of that, because of the particular field of human experience in which he is a genius, his mind is never at rest. Stagnation is primeval evil to him. He could no more vegetate on an Earthly estate when there are empires to be won and lost among the stars than a bird could sit still when migration time is due. His genius is a basic part of the human brain; it is subject to the usual body chemistry; he can no more control it than he could stop his heart beating. And if he did——"

"If he did," Wu Ssu-hsun said gently, "the results would be the same. He'd die."

"Precisely," said Peter Wharton. The pangs of his hatred of himself and his festering conscience withered under the warming knowledge that he had done the right thing, at last. His own justification brought its own reward.

Now he could set about getting to know his son as a human being, a person, instead of a mere cipher in the Galactic game of commerce, politics and war.

The roboannunciator said: "Mr. Peter Wisdom."

"Not quite," said Wisdom, walking into the cool transparent undersea room. "I've come home. Back to do a job. And it's not Peter Wisdom, it's Peter Wharton Junior."

KENNETH BULMER

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New Hard-Cover Science-Fiction Reviewed by

KENNETH F. SLATER

It seems to me that there is a temporary dearth of good science fiction between boards in Britain at the moment. This may be because publishers are hiding their science fiction novels under other guises, but although I've kept an eye open for "prophetic novels", "Wellsian romances" and "works of imaginative fiction" I've not come upon much of interest.

Perhaps the best thing I've read recently is Alastair Mars' *ATOMIC SUBMARINE* (Elek Books, 192 pp., 12/6) which, incidentally, is described as "A Story of Tomorrow". Now, a word of warning first. Should you be convinced that *the* weapon is the I.C.B.M., the earth satellite or the lunar station, the high altitude aircraft or perhaps some monstrous development of the "tank", then you'll be apt to fall out with Alastair Mars, D.S.O., D.S.C., a submariner with a couple of other submarine novels, and a war-time autobiography (two volumes) of life and action in submarine service. Because Mr. Mars is convinced that *the* weapon of tomorrow is

the atomic submarine, armed with nuclear missiles and capable of a speed of 45 knots.

It is on this premise that the novel is based, and I must admit that the author presents a very strong case. In addition, he weaves it into a nice tidy plot complete with a love interest, plenty of action and a not too obvious element of suspense.

Lieutenant-Commander Dering has been in a spot of trouble and has been pushed into a dead-end job. A friend rescues him from this naval backwater and they become the two officers who will receive command of Britain's first atomic submarines, the first of which, the *Avenger*, is nearing completion. Russian agents take out Dering's friend by a faked car accident, bringing Dering into the position for command of the first atom sub. They then try to bring pressure on to Dering through his girl friend, Nina, who is an unsuspected low-grade agent (now in revolt because of her love for Dering), and also through a promissory note which Dering has signed and which, although based on an exorbitant

rate of interest would, of course, wreck his naval career if brought to light.

At the same time Communist threats in the Far East make it apparent that war is probable, and the *Avenger's* departure is hastened. Paul Wright, of the U.S. Bureau of Ships, representing U.S. interests in the building of Britain's atomic subs, gets the pressure taken off Dering and in aiding Nina to escape from the spy-ring, obtains evidence which he passes on for use in breaking up the ring. Nina also gives him data on Russia's plans for invasion of Singapore and Africa! Wright smuggles Nina aboard the *Avenger*, keeping her hidden until he is sure that Dering will not return to base. They then tell Dering the story, and from there I'll let you read the book. I'll just mention that the *Avenger* makes a passage under the Arctic ice, that the shipboard pile runs away due to sabotage, that she is successful in destroying Vladivostok and then in chasing and defeating the Russian/Chinese fleet which is on the way to the invasion of Africa! Fast and furious action. . .!

Perhaps it is unfortunate that this book, which contains a number of derogatory remarks about Russian technological standards, should appear so shortly after this theory has been somewhat definitely exploded—it casts a reflection on the probability/accuracy of the rest of the extrapolation which I feel is not justified.

The impact of the Russian achievement has not yet reached the printed pages of the science-fiction magazines, nor has it

affected any of the science-fiction books, at the time I write this. With one exception. THE SPACE ENCYCLOPÆDIA (Artemis Press, 287 pp., 35/-) considered it sufficiently important (as it indeed was) to produce a three-sheet folder supplement, dated November, '57, giving data on SPUTNIK ONE. The Encyclopædia itself is an excellent reference work on all things connected with space research. It gives clear and simple explanations of terms used in rocketry, astronomy and associated sciences. You'll find "Honest John" quickly defined, a short explanation of Spectral Classification, Space Medicine gets a precise but quite full discussion; subjects such as Astronomy, the Solar System, the individual planets (and the Moon), Tele-

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scopes and many others get a full treatment, sufficient to serve as an introduction to the subject to any enquiring mind desirous of enlarging its scope of knowledge. The text of the work is illustrated with photographs and sketches, tables and graphs, which form an invaluable aid to clear presentation. If you have a bookshelf, this item should be on it. Even if you keep your books in a box under the bed . . . well, try this under the pillow!

There have occurred in the history of mankind a number of inexplicable events which have given rise to considerable speculation. Quite often far more speculation than the events themselves have justified, and the records (and recorders) of each individual event have snowballed into colossal masses of opinion, theory, explanation and general wild surmise with a very tiny core of observed data. In *GREAT WORLD MYSTERIES* (Dennis Dobson, 16/-, 191 pp.) well-known science-fiction author and Fortean Society member Eric Frank Russell has attempted to remove the outer layers and get down to the data.

He commences with the case of the *Mary Celeste*; it is doubtful whether there is anyone who has not at least heard of this mystery of the sea. It has been "reported" in shocker-article form in almost every periodical and newspaper which uses that type of journalism, it has been mentioned or discussed in more serious works than I can recall, and—at least for the science fiction fraternity—has been used as an appendage to, if not the body of, a great many science-fiction plots. Mr. Russell peels off the rind of scare-surmise and gives

the few known facts, with some observations on their sources and validity. In addition, he gives a refreshing new possible solution to the mystery, one which whilst not exactly commonplace does bring the mystery from the realms of the supernatural or extraterrestrial into the severely mundane. A very similar treatment is given to the case of the Devil's Footprints, those marks in the snow which occurred in Devon back in the middle of the 19th century. (Rather farcically, in an article, I once suggested that these footprints were caused by a member of that race which inhabits the Himalayas visiting the Abominable Little Men of the Snowless Lands—Mr. Russell's suggestion, I regretfully state, is far more logical.)

The eleven sections of the book also include "Gadgets in the Sky", the Easter Island statues, Sea Monsters, levitation, the disappearance of Benjamin Bathurst and other similar mysteries. Whilst Eric Frank Russell is not always able to offer an explanation, he does present the evidence fairly, attempting as far as possible to distinguish between the probable and the doubtful. In each case he draws attention to the existing parallels which lack the publicity of the well-known case, thus disabusing—I hope—many people of the idea that such things as the vanishing of the crew of the *Mary Celeste* are isolated marvels. The book is well and entertainingly written, salted here and there with that touch of humour which is now the hallmark of a Russell science fiction yarn of the topmost quality.

I have a complaint, however. Mr. Russell has appended a

bibliography and an index. For a work of this type I feel it is imperative that the bibliography should be referenced to the text, in order that the reader can with ease check the source from which Mr. Russell quotes, may form his own opinion of the "authority" of that source and in general not to have to take Mr. Russell as an authority—for accepting the word of "authority" is, at least indirectly, one of the things Mr. Russell warns the reader against. But, in effect, the lack of such notation puts the reader in the position of having to take Mr. Russell's word for it, or else of reading in their en-

tirety the 37 books and the complete file of *Doubt* (Magazine of the Fortean Society) plus the several newspapers to which reference is made in the text—it is not clear whether Mr. Russell made reference to them in fact, or has simply quoted from other sources what those other sources said the newspapers said. If you follow me. Only in that way can they accept Mr. Russell's authority as backed by the authorities he quotes . . . and, of course (as I full well know) each of these books in turn quotes others . . . we are going to be busy! But I rather doubt that anyone will bother to question what Mr. Rus-

NEBULA AUTHOR'S AWARD 1957

We have great pleasure in announcing that, as a result of the Reader Opinion Polls on the stories in the six issues of *NEBULA* published during 1957, William F. Temple has been chosen Author of the Year by our readers.

Mr. Temple will receive the usual cash prize of £20 and we should like to extend our heartiest congratulations to this author who, although he has often been a close runner-up in our yearly "Honours Lists" has never before attained the coveted Number One position.

Second place is very deservedly filled by Kenneth Bulmer who is another regular inmate of our top three placings, while Bertram Chandler, who made his very first appearance in our pages last year, has rocketed right up into third position.

Although many readers cast their votes in the "Guinea Prize Polls" during 1957 we would like even more of you to do so this year. Remember that by expressing your preference on the ballot form we print each month you not only help your favourite author to win an attractive cash award, but provide yourself with the opportunity of winning the prize of one guinea also. This month's ballot form is on page 111.

sell has said . . . and he'll go down as an authority, much as he may dislike the idea!

In pocket-books I can recommend Charles Dye's **PRISONER IN THE SKULL** (Corgi, 219 pp., 2/6); the story opens with Alister Conrad awakening, and not being able to recall anything . . . he discovers who he is from his identity card; and tries to televise his wife—when she sees who is calling she screams and breaks connection. Shortly afterwards Conrad is arrested for impersonating Conrad, who is dead, believed murdered! Then retina patterns prove that he is Conrad . . . well, you can take it from there. Or, let Charles Dye take it from there. He gets it even more confused before he straightens it all out again. On the serious (factual) side there is Milton W. Rosen's **THE VIKING ROCKET STORY** (Panther, 2/6, 192 pp.), now of historical interest! Then for the fantasy fan, a published edition of Abraham Merritt's **BURN, WITCH, BURN** (Pedigree Books, 2/6, 192 pp.). An interesting point here is that the data page still states that this book was first published in Britain by Spearman in 1955. I guess that copy of the Methuen edition on my shelf must be fictitious.

There is a Collins Classic edition of H. Rider Haggard's **AYESHA: The Return of She** available at 5/6; a collection of vintage horror stories, edited by John Keir Cross, under the title of **BEST HORROR STORIES**, has been published by Faber at 15/-. There is some worth-while material in this book, but if you already have a wide range of horror-yarn-anthologies, you are likely to get repetition. Check it

before buying. For the weird fan, Dion Fortune's **THE DEMON LOVER** may be of interest. It is rather inclined to the "occult" reader than the science-fiction weird story fan, however. Aquarian Press, 15/-. that one. Ray Bradbury's latest is, of course, a must for the Bradbury fan, but may be overlooked by the science fiction reader. One wonders how much of it is autobiographical? Title is **DANDELION WINE**, publisher Hart-Davis, price 16/-. A new edition of **THE COLLECTED SHORT STORIES OF H. G. WELLS** has been published by Ernest Benn at 13/6—all 1,038 pages of it. Eric Knight's famous **SAM SMALL, THE FLYING YORKSHIRE MAN**, has been reprinted by Spearman at 12/6, and **THE WORLD OF CHANCE**, by Philip K. Dick, reprinted by Rich & Cowan at 6/6.

Those last seven are, of course, between boards. I regret that so few new items are mentioned this time, but short of recommending that you all buy two copies of each title and thus encourage the publisher to issue some more science fiction, I don't see what I can do about it. There is one thing, perhaps, you can do to help me—if you happen to notice any science fiction or fantasy titles around that I've not mentioned within two or three months of publication, drop a card to me in care of Peter Hamilton. This will help me keep track of those titles which slide past under such disguises as "futuristic romances". (By the by, I found two science fiction novels on the "romance" shelves at the local library—even the librarians get fooled!)

SCIENTI FILM PREVIEWS

News and advance Film Reviews direct from Hollywood's

FORREST J. ACKERMAN

I am a 41-year-old film reviewer and I don't want to die. But I may have to: I have just seen *THE INVISIBLE BOY* (the return of Robby the Robot—an invisible cast, and no dialogue would have improved this miserable fiasco) and *I WAS A TEENAGE FRANKENSTEIN*. My question is: who can I sue—or whom—for infliction of cruel and unnatural punishment?

What country will strike a medal for the Order of the Bloodshot Eyeball?

Who will join me in a holy crusade for the establishment of the S.P.C.C.?—the Society for the Prevention of Cruelty to Critics?

Producers orter have a heart; or, as Walter Willis might put it, "There orta be a law."

Several issues ago in *NEBULA* an unhappy reader pointed a knowledgeable finger in my direction and waggled it, in effect scolding "Fie for shame, Forry Ackerman! You should know better than to confuse the Monster with its creator, Frankenstein." I believe I had referred to Frankenstein directly as "that most durable of monsters."

Well, now. My mistake was not one of ignorance. I have many editions of the book in my

library. I have a set of the sound discs from the original film. Through the years I have watched the monster portrayed by Boris Karloff, Lon Chaney, Jr., Bela Lugosi, Glenn Strange, Ed Payson, Primo Carnera, Christopher Lee and Whit Bissell. I have visited the actual Castle Frankenstein, constructed in the 13th century, its ruins surviving till today in Germany. And I could go on and be facetious, adding: "How well I remember that storm-swept night when a mere slip of a teenage girl, Mary Shelley, age 17, joined me and the others present in the challenge to see who could produce the most terrifying horror story." But it was 140 years ago that the amazing Mary won the competition by creating *FRANKENSTEIN*, that—er—most durable of monsters, and I cannot quite yet lay claim to that many years on this preposterous planet, it just seems so, sometimes, previewing pictures like *I WAS A TEENAGE FRANKFURTER MEETS THE MEATBALL MONSTER*.

So: to defend my stand, referring to the monster as Frankenstein. (The title of the teenage picture obviously does.) I recently wrote a 4,000 word

article called "The Frankenstein Story", 300,000 copies of which will be on sale on news-stands throughout the U.S.A. during February, March and April of 1958 in a slick publication called FAMOUS MONSTERS OF FILMLAND. At the outset of the article I informed the reader I was going to refer to the monster as Frankenstein. Precedent was established for me in the film SON OF FRANKENSTEIN. True, the title alluded to the son of the scientist; nevertheless, during the course of the unfolding of the plot, recognition was given to the fact that people have come to equate the name of Frankenstein with the monster he created.

When I was studying English in high school, we were taught that "human" was an adjective and could only be used to modify a noun, as "a human being", or other adjective; it could never stand alone; in other words, there was no such thing as a *human*. "Intrigue" pertained only to spies and plots, it was incorrect to speak of an "intriguing notion" or an "intriguing woman" in the sense of interesting or fascinating. (Are you learning something, teenagers? Anybody who tries to tell me NEBULA isn't an intriguing magazine or Brigitte Bardot an intriguing woman is full of sputnik static.) "Unique" used to have a unique meaning, but not any more; I have seen so many products, places and people publicised as "the most unique of their kind" that I wouldn't be surprised to find some future FRANKENSTEIN advertised as "the most unique FRANKENSTEIN ever made."

Which, in its wretched way, the TEENAGE version is. At least I hope there'll never be another of its kind. It takes place in America today. A descendant of the original Victor Frankenstein, himself a doctor and engrossed in the same sort of "unholy" experimentation, is conveniently supplied a fresh warm corpse when there is a head-on collision of cars outside his apartment and a young driver catapults through a windshield and smashes on a nearby copse. Dr. Frankenstein and his assistant, whom he has Under His Power, spirit the badly mutilated body downstairs to a secret laboratory-cum-morgue, which is kept at a freezing temperature and where a Jacob's ladder runs up the electricity bill by crackling 24 hours a day. Now all that really happens when you analyse it is that this crash victim has a leg and hand replaced, à la Orlac, and is brought back to life with a battered face that looks like a five-year-old child modelled it out of putty, and if the truth were known a five-year-old child probably did, give or take a year either way. For no clear reason he now has to be taught to talk all over again and he comports himself like a monster.

Frankensteinteenager!

When I tell you that the mad doctor's method of disposing of excess flesh and fiancée is via a hidden panel with a starving *alligator* thrashing in the water at the bottom of the well, well——!

TEENAGE is the most tasteless of all Frankenstein episodes.

Mary Shelley never had it so bad.



WALTER WILLIS writes for you

In one of Nigel Balchin's novels—*The Small Back Room*, I think—there was a character whose interest in life was hunting for correlations. That is to say that he would, armed only with a computer and some punched cards, venture into the morass of statistics and bring back wild and peculiar facts which he would then attempt to tame into significance. Sometimes this took quite some doing. The instance quoted in the book, as I remember, was that tall men had slightly better scores in rifle-shooting than short ones. The possible explanations for the tiny discrepancy include that tall men were nearer the target when they lay down, or their bullets less subject to gravity drag and atmospheric resistance when they stood up. You see what I mean.

It would be interesting to apply the same techniques to people's literary tastes. If we could find a correlation between a fondness for science fiction and some other trait we might be able to explain why it is that out of the entire population of the English-speaking world, only such a comparatively small proportion are devotees of the literature that seems so vital and significant to us. Maybe some day someone like Sam Moskowitz

will undertake this assignment, but in the meantime all we can do is to speculate. One line of approach that occurred to me recently was to see what sort of non-science-fiction literature science fiction fans liked. If you could find some such correlation, it would be a reasonable hope that other readers of that type of literature might be potential science fiction fans.

One that occurred to me right-away was, of all things, Forester's *Hornblower* stories. Many of the fans I know are admirers of this series, but it was Ken Bulmer who put me on to it first. I ignored him valiantly for years—I hate historical novels because the characters seem so dead, if you know what I mean—but then one day I read one and I was hooked. Ever since I've been wondering why. There's nothing fantastic about them to appeal to my sense of wonder. There's no personal interest, because it's extremely unlikely that I'll ever be in command of a four-masted brigantine. (I'm sort of set in my ways now.) Finally I decided that it was because they appealed to something very similar to the sense of wonder, and equally the soul of what science fiction should be, the thrill of discovery. Not the vicarious thrill

of discovery you feel with the characters in stories of real or imaginary exploration, but the thrill of discovering things for oneself. Mere information. But my point is that information isn't so mere, and it's time that science fiction authors realised this. They're still reacting against the time thirty years ago when a science fiction story was apt to consist of one sentence of action to four inches of footnote, and some editors now boast that their stories are pure "entertainment", as if there were anything entertaining in the hero getting chased and knocked down with monotonous regularity on every page. Information can be entertainment, as many best-sellers show, from straight travelogues and exploration accounts to novels set in specialised settings, like Dorothy Sayers's or Balchin's or scores of others. But the Hornblower saga is one of the best examples, because if it was put to you in cold blood you could hardly imagine anything less interesting than old Admiralty regulations and store accounting instructions. But, presented properly, they're utterly fascinating, and the spectacle of the average circulating library reader avidly absorbing page

after page of abstruse technicalities should give us science-fictionists something to think about. If people like to be informed, surely science fiction has something even more interesting to offer than details of the navigation, administration, maintenance and revictualling of sailing-ships during the Napoleonic Wars?

This is Forry Ackerman's Life :

A happy little event took place in Los Angeles recently: a little boy suffering from leukemia died and left Forrest J. Ackerman a tape recorder. No, wait, this isn't as callous as it sounds—quite the reverse in fact. You see, some fifty of Forry's friends got the idea of giving him a testimonial dinner on the eve of his departure for Europe and the World Convention, and a going-away present of a tape recorder. They wanted it to be a complete surprise, but your film correspondent is a very busy man and they figured that to make him break his work schedule without notice would need something like a sick little boy who wanted to talk to him about science fiction. So they invented one. Bobbie Benson was his name, and he was completely documented. But when one of the conspirators brought Forry along, arms full of books and heart full of sympathy, the door opened on a banquet instead of a sick-bed. It must have been a nice moment, and well worth recording, but the main reason I mention it is that it tells you so much about Forry Ackerman.

WALTER WILLIS

writes for you in
every edition of

NEBULA

Arthur, Sea Clerk :

Arthur C. Clarke, expert on deep space and shallow seas, has

set up another record by being the first science fiction author to be advertised as a tourist attraction. A travel folder published by the Government of Ceylon, where he is now living, features on the cover one of his fine colour photographs showing Arthur himself engaged in what his old sparring partner, Bill Temple, once called "submersive activities". This certainly makes a change from bathing beauties, and let's hope it opens up a new source of income for science fiction personalities. Why, for instance, should the finest things in Scotland always be represented by photographs of the Cairngorms and Edinburgh Castle? Let's have an action shot of 159 Crownpoint Road showing Peter Hamilton At Bay.

It's reported that the well-

known rocket expert who writes under the name of Lee Correy has left his company because of disagreements about the progress, or otherwise, of the U.S. satellite programme.

Ted Tubb and Ken Bulmer have formed an amateur ciné club to produce their own motion pictures.

A new film society in Liverpool (The New Shakespeare) was reported in *The Observer* to have resolved to exclude "films of violence, horror, science fiction or exaggerated sex". As a result of written protests from fans all over the country, led by Vince Clarke, of London, the film society has now agreed that each film should be judged on its merits, and science fiction films will *not* be automatically excluded.

What was

THE THING

*tracked over Paris by
Orly Airport Radar?*

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ENGLAND



GUIDED MISSIVES

Letters to the Editor

Dear Mr. Hamilton: I should like to draw your attention to the statement made by: (a) the Astronomer Royal, who says that interplanetary travel is impossible, (b) the Director of the Radio Telescope who asks why we should exhaust our capital and our reserves in a misguided race to the moon, and (c) multitudes of writers and others who seem doubtful whether untold millions should be spent on developing a lunar rocket while on earth a large percentage of the human population still lives in primitive conditions below what we would regard as subsistence level.

These arguments are, as you know, being disgorged every day through TV, Radio and Press, and are being accepted without reservation by the man in the street.

What are the enthusiasts of interplanetary travel and science-fiction going to do about it? (Did I hear a voice say: "Go to Russia"?)

Personally, I am astonished that so little has been heard from the British Interplanetary Society. Surely this is the era which they, of all people, have been waiting for.

A. GREGORY,
Crook, Co. Durham.

* *The type of argument which you mention must now be*

very familiar to all of us, Mr. Gregory, and is merely the reaction of the small mind, devoid of imagination, to some idea which it does not truly understand. The world will probably always contain such people, but fortunately their influence is largely cancelled out by the visionaries, the explorers and the adventurous-minded without whom we would doubtless still be sitting in a damp cave waiting for fire to be discovered.

I personally believe that with the attainment of space travel a new age of discovery and exploration will begin and humanity, at last humbled by the realisation of its own insignificance, will advance united to meet the challenge of the stars.

Dear Editor: What, in your opinion, constitutes a really good issue of NEBULA?

J. BRADLEY,
New York, 15, U.S.A.

* *The issues I like best to edit are, as you might expect, those which contain the stories I myself enjoy best. It is, of course, obvious that I cannot like every story equally any more than can the average reader, but naturally they all incorporate some vital point in*

plot or narration which I consider good, and believe will be enjoyed by the majority of readers. Again, I like an issue to be balanced in story content, and aim, within the limits of material available, to make the stories in each issue as different from one another as possible. Although science-fiction writers have literally all of space and time from which to draw their plots it is surprising how often several different authors will submit yarns which, although superficially different, can all be fitted into a general classification such as "Space Opera", or "Psychology". Bearing in mind the comparative shortage of good science-fiction short stories this difficulty makes a truly balanced issue of any magazine something of a rarity.

Then there are the multiplicity of other items which have to be written or selected by the editor for each issue of his magazine. These include the Editorial, Letter Section, Cover Illustration, Interior Art Work, etc., etc., etc., all of which can add or detract from the all-round quality of the issue in which they appear.

Unfortunately the space available does not permit me to answer your very interesting question more fully, Mr. Bradley, but I hope I have been able to give you some slight idea of how I assess each issue of NEBULA from the editorial standpoint, and incidentally of just how much work and preparation is involved in producing each issue of the magazine.

Dear Mr. Hamilton: I have just read NEBULA No. 24, which appeared here on the 23rd October, just two days ago.

As you say in your Editorial, this issue is important in that it marks your fifth birthday, but a much more significant aspect of this number is that it is the third NEBULA in three months—something which has never happened before. I hope you can maintain this monthly regularity over many years to come.

Since I last wrote to you I have purchased NEBULA Numbers 21, 22, 23 and 24, and the purpose of this lengthy missive is to give you my opinion on all four issues.

The only cover which I am not keen on is Number 23. James Stark has a precision in his work which produces some very pleasant fantasy pictures, but his treatment of the human face seems, as I might have expected, rather wooden. However, his covers for Numbers 21 and 22 are magnificent, particularly the second, which was most unusual and original.

The Photo Features are an excellent innovation, and very popular, I imagine. I enjoyed them all. They bring just the

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right amount of "scientific background" into a magazine whose main purpose is one of sheer entertainment.

"Somewhere a Voice," by Eric Frank Russell, is surely one of the best stories ever to appear in NEBULA. Not a very profound moral to it—but one which cannot be pointed too often. And the writing was Russell at his very and most simple best! How you would have cheered in September, '52, if you had known that such a story was to appear in a future NEBULA!

I wonder if H. Philip Stratford is a pen-name for J. Russell Fearn, or some other well-known writer! Certainly it was unusual to find the lead novel "The Thoughtless Island" written by someone I didn't know. There was an air of "platinum blondes", "Americans" and "swashbuckling" in it, and a rather fantastic idea for a plot; but it was interesting and exciting. The first few paragraphs were exceptionally well written.

I enjoyed "Against Goliath" immensely, and I'm looking forward to the sequels. Temple always tells his stories in an interesting way, so that they are not dependent on the final twist as are those of so many other contemporary British authors. He seems very intelligent and with a wider background than many of his rivals. I am very pleased that he writes so much for NEBULA.

The novelettes were rather weak, I thought. The only one I enjoyed was "Pompey's Planet" in No. 22, and it was spoilt by the ludicrous and sentimental drool at the end. I fear I was never able to take this novelette

very seriously. I didn't like the narration in "Treasure", which I felt was rather naïve; and the ending took a lot of the romance out of interstellar adventure; the name Tubaraleen is too much like tureen! Why was Lethe Lend called that? The story was very run-of-the-mill in its telling—how I am sick of these "preliminary surveys" that space-ships always make! It lacked atmosphere, and carried no more impact than a wet fire-cracker. Kenneth Bulmer's story, "The Ties of Iron", hit a very low point. It was miserable compared to his story in NEBULA No. 19.

"All the World's Tears" and "Out of Thin Air" are the only two of the short stories which I would call outstanding. The former an excellent gem of a far-away autumn future; the latter as funny as it was intended. I enjoyed most of the others, but there were some, including "Dream World" and "And So Farewell", which I would have preferred not to see.

NIGEL JACKSON,
Melbourne, Victoria,
Australia.

* *Thanks for the long and interesting letter, Nigel. I only wish more of my readers would take the trouble to write as often and as fully as you do.*

Dear Ed.: I have only recently been introduced to NEBULA Science-Fiction Magazine—an entirely new field of literature to me.

In the copy in my possession, I have enjoyed particularly J. S. Glasby's "No Escape" with its clarity of exposition, and sensitivity.

The feature, "Satellites and the I.G.Y." I found topical and of real interest.

As a new reader, I should like to offer my congratulations to an editor who has the courage to fill his magazine with readable matter, uninterrupted by advertising, in the modern manner. In recent years, it has been almost impossible to select a magazine or periodical of any description without having to chase the story from the bottom of one page to the top of another, jump three or four pages ahead, and so on to the end. Quite apart from the annoyance this procedure entails, the break in the trend of one's reading is most distracting. I hope, therefore, Mr. Editor, whatever policy you may adopt in the future, you will at least retain your present principle so far as the "make-up" is concerned.

MRS. J. M. ELLIS,
Bothwell.

* *You may rest assured that my policy in regard to advertisements for NEBULA will remain as it has done more or less since the inception of the magazine, Mrs. Ellis. Any advertisements which do appear in NEBULA will be in good taste and unlike those in many other contemporary science-fiction magazines will not be allowed undue space either in the body of the magazine or on our covers.*

I was interested in your comments on the article "Satellites and the I.G.Y." So topical was it indeed that one or two other correspondents have actually suggested that I must have received

ONE GUINEA PRIZE

To the reader whose Ballot Form (below) is first opened at the NEBULA publishing office.

All you have to do, both to win this attractive prize and to help your favourite author win the 1958 Author's Award, is to number the stories in this issue in the order of your preference on the Ballot Form below, or on a postcard if preferred, and mail it immediately to NEBULA, 159 Crowpoint Road, Glasgow, S.E.

The Hired Help	
Risk Economy	
Colour Bar	
Escape From Plenty	
The Great Game	

Name and Address

Mr. D. H. Wilkinson of Bahrain wins the One Guinea Prize offered in Nebula No. 25. The final result of the poll on the stories in that issue was:—

1. ACT OF AGGRESSION
By Robert Tilley 23.2%
2. BRIEF ENCOUNTER
By William F. Temple 17.5%
2. THERE'S NO BUSINESS
By Kenneth Bulmer 17.5%
4. CHIP ON MY SHOULDER
By Robert Presslie 15.1%
4. NO ESCAPE
By J. S. Glasby 15.1%
6. THE FIRST
By Edward Ludwig 11.6%

The result of the poll on the stories in this issue will appear in NEBULA No. 30.

advance information direct from the Kremlin!

Dear Mr. Hamilton: NEBULA is still a fine magazine, but I wish you would revert to the 128 pages and the fine book paper you used to have. It gave the magazine a quality which none other was able to approach. The covers are excellent, Stark and Thomson are wonderful additions to your staff. I wish you would get Wilson back again. I just loved his line drawings.

The stories continue to be of good quality though I have noticed an increase in the number of psychological stories done in the American style, and I don't like it. British writers should not try to copy American styles as their own are better and most refreshing. Bulmer and Tubb are the most guilty of this, though Rayer and James continue to be authors of good British style science fiction, and are my own personal favourites.

JEREMY A. BARRY,
San Francisco, U.S.A.

* *Sorry, Jeremy, but there is little hope of returning to the book paper used in earlier issues of the magazine as this*

increased production costs by at least fifty per cent. Funds which were used in paying for this expensive luxury are now employed in the more necessary job of buying ever better stories and features for us to read—more important items than thicker paper, as I think you will agree.

Dear Mr. Hamilton: Really, I must protest against the publication of the story in NEBULA No. 24 by E. C. Tubb, "The Eyes of Silence." It was a jolly good story until the four lines from the end. Really, Mr. Hamilton, do you automatically publish stories submitted by E. C. Tubb? Do you read his stories before publishing them? If the answer is yes, then you must answer another one, namely, how can any rational person accept the statement that "What a man knew he could teach." I am sure you are too intelligent to need me to present all the arguments against the truth of this statement.

STUART BEHRMAN,
London, E.11.

* *My apologies, Mr. Behrman. I stand corrected.*

BACK NUMBERS .

In response to requests from a large number of readers we are again offering back numbers of NEBULA for those who are unable to obtain them from their usual supplier.

All issues from No. 11 to No. 26 can be had for 2/- or 35c. each post free. All other numbers are permanently sold out.

*Cash with order, please, to: NEBULA Science-Fiction,
159 Crownpoint Road, Glasgow, S.E.*

MORNING AND EVENING STAR—Continued from inside front cover

Almost a twin of the Earth's in size and mass, Venus is covered by a dense atmosphere that for hundreds of years has hidden the planet from the gaze of astronomers and prevented much information from being gathered. It is only during the past few years that new methods are enabling problems to be solved that resisted the older methods since the invention of the telescope.

The atmosphere does show at times faint and hazy markings that become relatively conspicuous when photographed in ultra-violet light. They do not enable the astronomer, however, to measure the rotation period of Venus on its axis.

Spectral analysis of the Venusian atmosphere has revealed no traces of water vapour or oxygen but an abundance of carbon dioxide, present in amounts more than one thousand times the total quantity in our own atmosphere. This suggests that vegetation has not developed on Venus, since it is tellurian vegetation that replenishes the store of oxygen in the Earth's atmosphere. The hope of finding oxygen below the clouds of Venus is faint since being lighter than carbon dioxide, it would have tended to rise above the latter gas.

Many attempts have been made to measure the period of rotation of Venus. On Mercury, the planet nearest to the Sun, markings on the solid surface are visible. Schiaparelli noted that they remained nearly fixed in their position with respect to the terminator—the line separating night and day on the planet—showing that the planet rotated once in 88 days, the planet's orbital period. In other words, like our own Moon and the larger satellites of the Solar System, Mercury keeps the same face turned towards its primary. It was thought by many astronomers in the past that Venus rotated once in just under 24 hours but by the end of the 19th century opinions had changed to favour the theory that Venus, like Mercury, kept the same face turned towards the Sun, so that its "day" was 225 days long.

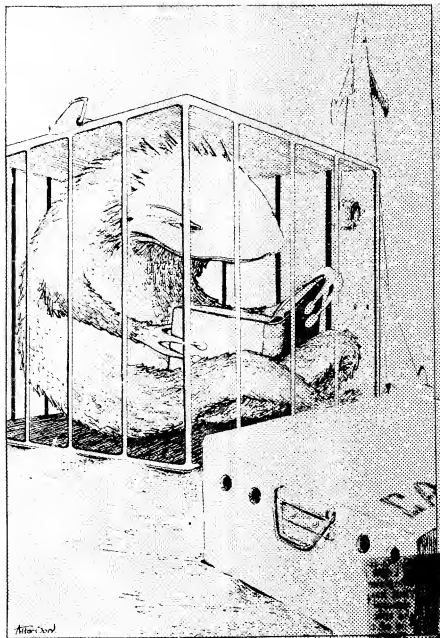
Pettit and Nicholson, however, from radiometric measurements, found that the sunlit side was not much hotter than the dark side, while Coblentz and Lampland found much more heat coming from the south cusp than from the mouth. These facts were consistent with the picture of a rotating planet whose axis of rotation was tilted at some degrees to the plane of the orbit. In the past two years the angle of tilt of the Venusian axis of rotation has been measured by Dr. Richardson of Mt. Wilson. It would appear that Venus's equator is inclined at about 14° to the planet's orbital plane. This conclusion was reached after a careful study of a series of ultra-violet photographs of the Venusian atmosphere.

It is possible that the period of rotation has also been discovered very recently by Dr. Kraus of Ohio State University. With modern electronic equipment it has been found that Venus and Jupiter are emitting radio waves of irregular duration and at least in the case of Venus some of these waves seem to be audio-frequency modulated. The tentative theory held at present is that the sources of such waves exist in the atmospheres of these planets as cyclonic disturbances. Some "broadcasts" from Venus seem to come from regions that pass a fixed direction in space roughly every 22½ hours. This would indicate that the Venusian atmosphere, and almost certainly the planet itself, is rotating with a period of about 22½ hours. If this is so, however, it is difficult to see why this rapid rotation has not previously been detected by the spectroscope which would have produced a measurable Doppler effect if the rotation period had been shorter than 20 days.

Many of the older science-fiction writers pictured Venus as a primitive world with oceans and continents as on Earth, but possibly inhabited by creatures akin to the ones that ruled our planet in prehistoric times. This theory is no longer held seriously since the water vapour from these oceans would be spectroscopically detected, also the oxygen given out by the vegetation. And as animal life as we know it depends directly or indirectly on plant life, then Venus cannot have anything remotely resembling terrestrial life.

Wildt has suggested that Venus has always lacked water and has shown that the atmosphere might contain large quantities of formaldehyde. On investigation by the spectroscope no trace of formaldehyde could be detected, at least in the regions of the atmosphere above the cloud layer.

Thus even today, our nearest planetary neighbour still remains a world of mystery. Perhaps the first real information about the surface will come from close-range radar surveys by the first spaceships to visit the morning and evening star.



Arthur Dool

Another scan
by
cape1736

